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STATE OF CALIFORNIA

DEPARTMENT OF TRANSPORTATION

NOTICE TO CONTRACTORS AND

SPECIAL PROVISIONS

**FOR CONSTRUCTION ON STATE HIGHWAY IN
MONTEREY COUNTY NEAR BIG SUR 1.8 km SOUTH OF PFEIFER CANYON BRIDGE**

DISTRICT 05, ROUTE 1

**For Use in Connection with Standard Specifications Dated JULY 1995, Standard Plans Dated JULY 1997, and Labor
Surcharge and Equipment Rental Rates.**

CONTRACT NO. 05-398504

05-Mon-1-71.4

Bids Open: August 1, 2000
Dated: June 26, 2000

IMPORTANT SPECIAL NOTICES

- **SURETY 2000**

Caltrans is conducting a pilot program in cooperation with Surety 2000, to test electronic bond verification systems. The purpose of the pilot program is to test the use of Surety 2000 for verifying a bidder's bond electronically.

Surety 2000 is an Internet-based surety verification and security system, developed in conjunction with the surety industry. Surety agents may contact Surety 2000 at 1-800-660-3263.

Bidders are encouraged to participate in the pilot program. To participate, the bidder is asked to provide the "Authorization Code" provided by Surety 2000, on a separate sheet, together with the standard bidder's bond required by the specifications. The bidder's surety agent may obtain the "Authorization Code" from Surety 2000.

The Department will use the "Authorization Code" to access the Surety 2000 database, and independently verify the actual bidder's bond and document the functioning of the Surety 2000 system.

"Authorization Codes" will be used only to verify bidder's bonds, and only as part of the pilot program. The use of "Authorization Codes" will not be accepted in lieu of the bidder's bond or other bidder's security required in the specifications during the pilot study.

The function of the Surety 2000 system is to provide an easier way for Contractors to protect their bid security, and to discourage fraud. This system is available to all California admitted sureties and surety agents.

The results of the pilot study will be tabulated, and at some time in the future, the Department may consider accepting electronic bidder's bond verification in lieu of the bidder's bond specified.

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STANDARD PLANS LIST

The Standard Plan sheets applicable to this contract include, but are not limited to those indicated below. The Revised Standard Plans (RSP) and New Standard Plans (NSP) which apply to this contract are included as individual sheets of the project plans.

A10A	Abbreviations
A10B	Symbols
A20A	Pavement Markers and Traffic Lines - Typical Details
A20B	Pavement Markers and Traffic Lines - Typical Details
A24E	Pavement Markings - Words and Crosswalks
A62A	Excavation and Backfill - Miscellaneous Details
A62F	Excavation and Backfill - Metal and Plastic Culverts
A73A	Object Markers
A73B	Markers
A73C	Delineators, Channelizers and Barricades
D87A	Overside Drains
H1	Planting and Irrigation - Abbreviations
H3	Planting and Irrigation - Details
<i>NSP T1B</i>	<i>Temporary Crash Cushion, Sand Filled (Bidirectional)</i>
T13	Traffic Control System for Lane Closure On Two Lane Conventional Highways
RS1	Roadside Signs - Typical Installation Details No. 1
RS2	Roadside Signs - Wood Post, Typical Installation Details No. 2
RS4	Roadside Signs - Typical Installation Details No. 4
ES-1A	Signal, Lighting and Electrical Systems - Symbols and Abbreviations
ES-1B	Signal, Lighting and Electrical Systems - Symbols and Abbreviations
ES-3A	Signal, Lighting and Electrical Systems - Signal Heads and Mountings
ES-3C	Signal, Lighting and Electrical Systems - Signal Heads and Mountings
ES-3D	Signal, Lighting and Electrical Systems - Signal Heads and Mountings
ES-3E	Signal, Lighting and Electrical Systems - Signal Heads and Mountings
ES-4B	Signal, Lighting and Electrical Systems - Controller Cabinet Details
ES-4C	Signal, Lighting and Electrical Systems - Controller Cabinet Details
ES-5A	Signal, Lighting and Electrical Systems - Detectors
ES-5B	Signal, Lighting and Electrical Systems - Detectors
ES-5C	Signal, Lighting and Electrical Systems - Detectors
ES-5E	Signal, Lighting and Electrical Systems - Detectors
ES-8	Signal, Lighting and Electrical Systems - Pull Box Details
ES-9B	Signal, Lighting and Electrical Systems - Cantilever Flashing Beacon, Types 9, 9A and 9B
ES-10	Signal, Lighting and Electrical Systems - Isolux Diagrams
ES-13	Signal, Lighting and Electrical Systems - Splicing Details
ES-14	Signal, Lighting and Electrical Systems - Wiring Details and Fuse Ratings

DEPARTMENT OF TRANSPORTATION

NOTICE TO CONTRACTORS

CONTRACT NO. 05-398504

05-Mon-1-71.4

Sealed proposals for the work shown on the plans entitled:

**STATE OF CALIFORNIA; DEPARTMENT OF TRANSPORTATION; PROJECT PLANS FOR
CONSTRUCTION ON STATE HIGHWAY IN MONTEREY COUNTY NEAR BIG SUR 1.8 km
SOUTH OF PFEIFER CANYON BRIDGE**

will be received at the Department of Transportation, 1120 N Street, Room 0200, MS#26, Sacramento, CA 95814, until 2 o'clock p.m. on August 1, 2000, at which time they will be publicly opened and read in Room 0100 at the same address.

Proposal forms for this work are included in a separate book entitled:

**STATE OF CALIFORNIA; DEPARTMENT OF TRANSPORTATION; PROPOSAL AND CONTRACT
FOR CONSTRUCTION ON STATE HIGHWAY IN MONTEREY COUNTY NEAR BIG SUR 1.8 km
SOUTH OF PFEIFER CANYON BRIDGE**

General work description: Eroding embankment to be repaired with geosynthetic reinforced wall.

This project has a goal of 3 percent disabled veteran business enterprise (DVBE) participation.

No prebid meeting is scheduled for this project.

Bids are required for the entire work described herein.

At the time this contract is awarded, the Contractor shall possess either a Class A license or a Class C-12 license.

The Contractor must also be properly licensed at the time the bid is submitted, except that on a joint venture bid a joint venture license may be obtained by a combination of licenses after bid opening but before award in conformance with Business and Professions Code, Section 7029.1.

This contract is subject to state contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

Preference will be granted to bidders properly certified as a "Small Business" as determined by the Department of General Services, Office of Small Business Certification and Resources at the time of bid opening in conformance with the provisions in Section 2-1.05, "Small Business Preference," of the special provisions, and Section 1896 et seq, Title 2, California Code of Regulations. A form for requesting a "Small Business" preference is included with the bid documents. Applications for status as a "Small Business" must be submitted to the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814, Telephone No. (916) 322-5060.

A reciprocal preference will be granted to "California company" bidders in conformance with Section 6107 of the Public Contract Code. (See Sections 2 and 3 of the special provisions.) A form for indicating whether bidders are or are not a "California company" is included in the bid documents and is to be filled in and signed by all bidders.

The Caltrans Central Region Construction Office is located at 850 L Street, Fresno CA 93721-2615. The District Duty Senior for this project can be reached at (805) 549-3481, or by fax at (805) 549-3523. The Department will consider bidder inquiries only when a completed Bidder Inquiry Form is submitted. The Bidder Inquiry Form is available on the Internet at <http://www.dot.ca.gov/dist6/construction>. To the extent feasible and at the discretion of the Department, completed Bidder Inquiry Forms submitted for consideration will be investigated, and responses will be posted on the Internet at <http://www.dot.ca.gov/dist6/construction>.

Project plans, special provisions, and proposal forms for bidding this project can only be obtained at the Department of Transportation, Plans and Bid Documents, Room 0200, MS#26, Transportation Building, 1120 N Street, Sacramento, California 95814, FAX No. (916) 654-7028, Telephone No. (916) 654-4490. Use FAX orders to expedite orders for project plans, special provisions and proposal forms. FAX orders must include credit card charge number, card expiration date and authorizing signature. Project plans, special provisions, and proposal forms may be seen at the above Department of Transportation office and at the offices of the District Directors of Transportation at Irvine, Oakland, and the district in which the work is situated. Standard Specifications and Standard Plans are available through the State of California, Department of Transportation, Publications Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, Telephone No. (916) 445-3520.

Cross sections for this project are available at the office of the District Director of Transportation of the district in which the work is situated in paper copy format.

The successful bidder shall furnish a payment bond and a performance bond.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the county, or counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at the Labor Compliance Office at the offices of the District Director of Transportation for the district in which the work is situated, and available from the California Department of Industrial Relations Internet Web Site at: <http://www.dir.ca.gov>. Future effective general prevailing wage rates which have been predetermined and are on file with the Department of Industrial Relations are referenced but not printed in the general prevailing wage rates.

DEPARTMENT OF TRANSPORTATION

Deputy Director Transportation Engineering

Dated June 26, 2000

LSW

COPY OF ENGINEER'S ESTIMATE
(NOT TO BE USED FOR BIDDING PURPOSES)

05-398504

Item	Item Code	Item	Unit of Measure	Estimated Quantity
1	018789	TEMPORARY FENCE (TYPE ESA)	M	68
2 (S)	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM
3 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM
4 (S)	120149	TEMPORARY PAVEMENT MARKING (PAINT)	M2	2
5 (S)	120151	TEMPORARY TRAFFIC STRIPE (TAPE)	M	500
6 (S)	120165	CHANNELIZER (SURFACE MOUNTED)	EA	16
7 (S)	128601	TEMPORARY SIGNAL SYSTEM	LS	LUMP SUM
8 (S)	129000	TEMPORARY RAILING (TYPE K)	M	210
9 (S)	129100	TEMPORARY CRASH CUSHION MODULE	EA	48
10	150206	ABANDON CULVERT	EA	1
11 (S)	150711	REMOVE PAINTED TRAFFIC STRIPE	M	450
12	150821	REMOVE HEADWALL	EA	1
13	150823	REMOVE DOWNDRAIN	EA	1
14	160101	CLEARING AND GRUBBING	LS	LUMP SUM
15	190101	ROADWAY EXCAVATION	M3	970
16 (S)	200001	HIGHWAY PLANTING	LS	LUMP SUM
17 (S)	203016	EROSION CONTROL (TYPE D)	HA	0.1
18 (S)	204015	PLANT (GROUP S)	EA	30
19 (S)	204099	PLANT ESTABLISHMENT WORK	LS	LUMP SUM
20	260201	CLASS 2 AGGREGATE BASE	M3	85

Item	Item Code	Item	Unit of Measure	Estimated Quantity
21	390103	ASPHALT CONCRETE (TYPE B)	TONN	200
22	394002	PLACE ASPHALT CONCRETE (MISCELLANEOUS AREA)	M2	120
23	394040	PLACE ASPHALT CONCRETE DIKE (TYPE A)	M	46
24	394048	PLACE ASPHALT CONCRETE DIKE (TYPE E)	M	59
25	397001	ASPHALTIC EMULSION (PAINT BINDER)	KG	350
26	018791	GEOGRID REINFORCED TIMBER RETAINING WALL	M2	210
27	692088	300 MM ENTRANCE TAPER	EA	1
28	820107	DELINEATOR (CLASS 1)	EA	7
29	820151	OBJECT MARKER (TYPE L-1)	EA	3
30 (S)	839521	CABLE RAILING	M	43
31 (S)	840656	PAINT TRAFFIC STRIPE (2-COAT)	M	370
32 (S)	850102	PAVEMENT MARKER (REFLECTIVE)	EA	42

**STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION**

SPECIAL PROVISIONS

Annexed to Contract No. 05-398504

SECTION 1.°°SPECIFICATIONS AND PLANS

The work embraced herein shall conform to the provisions in the Standard Specifications dated July 1995, and the Standard Plans dated July 1997, of the Department of Transportation insofar as the same may apply, and these special provisions.

Amendments to the Standard Specifications set forth in these special provisions shall be considered as part of the Standard Specifications for the purposes set forth in Section 5-1.04, "Coordination and Interpretation of Plans, Standard Specifications and Special Provisions," of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the special provisions, the indented text following said term shall be considered an amendment to the Standard Specifications. In case of conflict between such amendments and the Standard Specifications, the amendments shall take precedence over and be used in lieu of the conflicting portions.

In case of conflict between the Standard Specifications and these special provisions, the special provisions shall take precedence over and be used in lieu of the conflicting portions.

SECTION 2.°°PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01°°GENERAL

The bidder's attention is directed to the provisions in Section°2, "Proposal Requirements and Conditions," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation of the proposal form and the submission of the bid.

In addition to the subcontractors required to be listed in conformance with Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications, each proposal shall have listed therein the name and address of each DVBE subcontractor to be used for credit in meeting the goal, and to whom the bidder proposes to directly subcontract portions of the work. The list of subcontractors shall also set forth the portion of work that will be performed by each subcontractor listed. A sheet for listing the subcontractors is included in the Proposal.

The Bidder's Bond form mentioned in the last paragraph in Section°2-1.07, "Proposal Guaranty," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Noncollusion Affidavit.

Submit request for substitution of an "or equal" item, and the data substantiating the request to the Department of Transportation, Central Region Construction, P.O. Box 12616, Fresno, CA 93778, so that the request is received by the Department by close of business on the fourth day, not including Saturdays, Sundays and legal holidays, following bid opening.

2-1.02°°DISABLED VETERAN BUSINESS ENTERPRISE (DVBE)

Section 10115 of the Public Contract Code requires the Department to implement provisions to establish a goal for Disabled Veterans Business Enterprise (DVBE) in contracts.

It is the policy of the Department that Disabled Veteran Business Enterprise (DVBE) shall have the maximum opportunity to participate in the performance of contracts financed solely with state funds. The Contractor shall ensure that DVBEs have the maximum opportunity to participate in the performance of this contract and shall take all necessary and reasonable steps for this assurance. The Contractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts. Failure to carry out the requirements of this paragraph shall constitute a breach of contract and may result in termination of this contract or other remedy the Department may deem appropriate.

Bidder's attention is directed to the following:

- A. "Disabled Veteran Business Enterprise" (DVBE) means a business concern certified as a DVBE by the Office of Small Business Certification and Resources, Department of General Services.

- B. A DVBE may participate as a prime contractor, subcontractor, joint venture partner with a prime or subcontractor, or vendor of material or supplies.
- C. Credit for DVBE prime contractors will be 100 percent.
- D. A DVBE joint venture partner must be responsible for specific contract items of work, or portions thereof. Responsibility means actually performing, managing and supervising the work with its own forces. The DVBE joint venture partner must share in the ownership, control, management responsibilities, risks and profits of the joint venture. The DVBE joint venturer must submit the joint venture agreement with the Caltrans Bidder DVBE Information form required in Section 2-1.04, "Submission of DVBE Information," elsewhere in these special provisions.
- E. A DVBE must perform a commercially useful function, i.e., must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.
- F. Credit for DVBE vendors of materials or supplies is limited to 60 percent of the amount to be paid to the vendor for the material unless the vendor manufactures or substantially alters the goods.
- G. Credit for trucking by DVBEs will be as follows:
 - 1. One hundred percent of the amount to be paid when a DVBE trucker will perform the trucking with his/her own trucks, tractors and employees.
 - 2. Twenty percent of the amount to be paid to DVBE trucking brokers who do not have a "certified roster."
 - 3. One hundred percent of the amount to be paid to DVBE trucking brokers who have signed agreements that all trucking will be performed by DVBE truckers if credit is toward the DVBE goal, a "certified roster" showing that all trucks are owned by DVBEs, and a signed statement on the "certified roster" that indicates that 100 percent of revenue paid by the broker will be paid to the DVBEs listed on the "certified roster."
 - 4. Twenty percent of the amount to be paid to trucking brokers who are not a DVBE but who have signed agreements with DVBE truckers assuring that at least 20 percent of the trucking will be performed by DVBE truckers if credit is toward the DVBE goal, a "certified roster" showing that at least 20 percent of the number of trucks are owned by DVBE truckers, and a signed statement on the "certified roster" that indicates that at least 20 percent of the revenue paid by the broker will be paid to the DVBEs listed on the "certified roster."

The "certified roster" referred to herein shall conform to the requirements in Section 2-1.04, "Submission Of DVBE Information," elsewhere in these special provisions.

- H. DVBEs and DVBE joint venture partners must be certified DVBEs as determined by the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814, on the date bids for the project are opened before credit may be allowed toward the DVBE goal. It is the Contractor's responsibility to verify that DVBEs are certified.
- I. Noncompliance by the Contractor with these requirements constitutes a breach of this contract and may result in termination of the contract or other appropriate remedy for a breach of this contract.

2-1.03°°DVBE GOAL FOR THIS PROJECT

The Department has established the following goal for Disabled Veteran Business Enterprise (DVBE) participation for this project:

Disabled Veteran Business Enterprise (DVBE): 3 percent.

It is the bidder's responsibility to make a sufficient portion of the work available to subcontractors and suppliers and to select those portions of the work or material needs consistent with the available DVBE subcontractors and suppliers, so as to assure meeting the goal for DVBE participation.

The Office of Small Business Certification and Resources, Department of General Services, may be contacted at (916) 322-5060 or visit their internet web site at <http://www.osmb.dgs.ca.gov/> for program information and certification status. The Department's Business Enterprise Program may also be contacted at (916) 227-9599 or the internet web site at <http://www.dot.ca.gov/hq/bep/>.

2-1.04°°SUBMISSION OF DVBE INFORMATION

The required DVBE information shall be submitted on the "CALTRANS BIDDER°- DVBE INFORMATION" form included in the Proposal. If this information is not submitted with the bid, the DVBE information forms shall be removed from the documents prior to submitting the bid.

It is the bidder's responsibility to make enough work available to DVBEs and to select those portions of the work or material needs consistent with the available DVBEs to meet the goal for DVBE participation or to provide information to establish that, prior to bidding, the bidder made adequate good faith efforts to do so.

If the DVBE information is not submitted with the bid, the apparent successful bidder (low bidder), the second low bidder and the third low bidder shall submit the DVBE information to the Department of Transportation, 1120 N Street, Room 0200, MS#26, Sacramento, California 95814 so the information is received by the Department no later than 4:00 p.m. on the fourth day, not including Saturdays, Sundays and legal holidays, following bid opening. DVBE information sent by U.S. Postal Service certified mail with return receipt and certificate of mailing and mailed on or before the third day, not including Saturdays, Sundays and legal holidays, following bid opening will be accepted even if it is received after the fourth day following bid opening. Failure to submit the required DVBE information by the time specified will be grounds for finding the bid or proposal nonresponsive. Other bidders need not submit DVBE information unless requested to do so by the Department.

The bidder's DVBE information shall establish that good faith efforts to meet the DVBE goal have been made. To establish good faith efforts, the bidder shall demonstrate that the goal will be met or that, prior to bidding, adequate good faith efforts to meet the goal were made.

Bidders are cautioned that even though their submittal indicates they will meet the stated DVBE goal, their submittal should also include their adequate good faith efforts information along with their DVBE goal information to protect their eligibility for award of the contract in the event the Department, in its review, finds that the goal has not been met.

The bidder's DVBE information shall include the names of DVBE firms that will participate, with a complete description of work or supplies to be provided by each, the dollar value of each DVBE transaction, and a written confirmation from the DVBE that it is participating in the contract. A copy of the DVBE's quote will serve as written confirmation that the DVBE is participating in the contract. When 100 percent of a contract item of work is not to be performed or furnished by a DVBE, a description of the exact portion of that work to be performed or furnished by that DVBE shall be included in the DVBE information, including the planned location of that work. The work that a DVBE prime contractor has committed to performing with its own forces as well as the work that it has committed to be performed by DVBE subcontractors, suppliers and trucking companies will count toward the goal.

If credit for trucking by a DVBE trucking broker is shown on the bidder's information as 100 percent of the revenue to be paid by the broker is to be paid to DVBE truckers, a "certified roster" of the broker's trucks to be used must be included. The "certified roster" must indicate that all the trucks are owned by certified DVBEs and must show the DVBE truck numbers, owner's name, Public Utilities Commission Cal-T numbers, and the DVBE certification numbers. The roster must indicate that all revenue paid by the broker will be paid to DVBEs listed on the "certified roster".

If credit for trucking by a trucking broker who is not a DVBE is shown in the bidder's information, a "certified roster" of the broker's trucks to be used must be included. The "certified roster" must indicate that at least 20 percent of the broker's trucks are owned by certified DVBEs and must show the DVBE truck numbers, owner's name, Public Utilities Commission Cal-T numbers, and the DVBE certification number. The roster must indicate that at least 20 percent of the revenue paid by the broker will be paid to DVBEs listed on the "certified roster".

A bidder shall be deemed to have made good faith efforts upon submittal, within time limits specified by the Department, of documentary evidence that all of the following actions were taken:

- A. Contact was made with the Office of Small Business Certification and Resources (OSBCR), Department of General Services or their web site at <http://www.osmb.dgs.ca.gov/> to identify Disabled Veteran Business Enterprises.
- B. Advertising was published in trade media and media focusing on Disabled Veteran Business Enterprises, unless time limits imposed by the Department do not permit that advertising.
- C. Invitations to bid were submitted to potential Disabled Veteran Business Enterprise contractors.
- D. Available Disabled Veteran Business Enterprises were considered.

2-1.05°°SMALL BUSINESS PREFERENCE

Attention is directed to "Award and Execution of Contract" of these special provisions.

Attention is also directed to the Small Business Procurement and Contract Act, Government Code Section 14835, et seq and Title 2, California Code of Regulations, Section 1896, et seq.

Bidders who wish to be classified as a Small Business under the provisions of those laws and regulations, shall be certified as Small Business by the Department of General Services, Office of Small Business Certification and Resources, 1531 "I" Street, Second Floor, Sacramento, CA 95814.

To request Small Business Preference, bidders shall fill out and sign the Request for Small Business Preference form in the Proposal and shall attach a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form. The bidder's signature on the Request for Small Business Preference certifies, under penalty of perjury, that the bidder is certified as Small Business at the time of bid opening and further certifies, under penalty of perjury, that under the following conditions, at least 50 percent of the subcontractors to be utilized on the project are either

certified Small Business or have applied for Small Business certification by bid opening date and are subsequently granted Small Business certification.

The conditions requiring the aforementioned 50 percent level of subcontracting by Small Business subcontractors apply if:

- A. The lowest responsible bid for the project exceeds \$100,000; and
- B. The project work to be performed requires a Class A or a Class B contractor's license; and
- C. Two or more subcontractors will be used.

If the above conditions apply and Small Business Preference is granted in the award of the contract, the 50 percent Small Business subcontractor utilization level shall be maintained throughout the life of the contract.

2-1.06°° CALIFORNIA COMPANY PREFERENCE

Attention is directed to "Award and Execution of Contract" of these special provisions.

In conformance with the requirements of Section 6107 of the Public Contract Code, a "California company" will be granted a reciprocal preference for bid comparison purposes as against a nonresident contractor from any state that gives or requires a preference to be given contractors from that state on its public entity construction contracts.

A "California company" means a sole proprietorship, partnership, joint venture, corporation, or other business entity that was a licensed California contractor on the date when bids for the public contract were opened and meets one of the following:

- A. Has its principal place of business in California.
- B. Has its principal place of business in a state in which there is no local contractor preference on construction contracts.
- C. Has its principal place of business in a state in which there is a local contractor construction preference and the contractor has paid not less than \$5000 in sales or use taxes to California for construction related activity for each of the five years immediately preceding the submission of the bid.

To carry out the "California company" reciprocal preference requirements of Section 6107 of the Public Contract Code, all bidders shall fill out and sign the California Company Preference form in the Proposal. The bidder's signature on the California Company Preference form certifies, under penalty of perjury, that the bidder is or is not a "California company" and if not, the amount of the preference applied by the state of the nonresident Contractor.

A nonresident Contractor shall disclose any and all bid preferences provided to the nonresident Contractor by the state or country in which the nonresident Contractor has its principal place of business.

Proposals without the California Company Preference form filled out and signed may be rejected.

SECTION 3.°° AWARD AND EXECUTION OF CONTRACT

The bidder's attention is directed to the provisions in Section°3, "Award and Execution of Contract," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of contract.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed and who has met the goal for DVBE participation or has demonstrated, to the satisfaction of the Department, adequate good faith efforts to do so. Meeting the goal for DVBE participation or demonstrating, to the satisfaction of the Department, adequate good faith efforts to do so is a condition for being eligible for award of contract.

A "Payee Data Record" form will be included in the contract documents to be executed by the successful bidder. The purpose of the form is to facilitate the collection of taxpayer identification data. The form shall be completed and returned to the Department by the successful bidder with the executed contract and contract bonds. For the purposes of the form, vendor shall be deemed to mean the successful bidder. The form is not to be completed for subcontractors or suppliers. Failure to complete and return the "Payee Data Record" form to the Department as provided herein will result in the retention of 20 percent of payments due the contractor and penalties of up to \$20,000. This retention of payments for failure to complete the "Payee Data Record" form is in addition to any other retention of payments due the Contractor.

Attention is also directed to "Small Business Preference" of these special provisions. Any bidder who is certified as a Small Business by the Department of General Services, Office of Small Business Certification and Resources will be allowed a preference in the award of this contract, if it be awarded, under the following conditions:

- A. The apparent low bidder is not certified as a Small Business, or has not filled out and signed the Request for Small Business Preference included with the bid documents and attached a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form; and

- B. The bidder filled out and signed the Request for Small Business Preference form included with the bid documents and attached a copy of their Office of Small Business Certification and Resources (OSBCR) small business certification letter to the form.

The small business preference will be a reduction in the bid submitted by the small business contractor, for bid comparison purposes, by an amount equal to 5 percent of the amount bid by the apparent low bidder, the amount not to exceed \$50,000. If this reduction results in the small business contractor becoming the low bidder, then the contract will be awarded to the small business contractor on the basis of the actual bid of the small business contractor notwithstanding the reduced bid price used for bid comparison purposes.

Attention is also directed to "California Company Preference" of these special provisions.

The amount of the California company reciprocal preference shall be equal to the amount of the preference applied by the state of the nonresident contractor with the lowest responsive bid, except where the "California company" is eligible for a California Small Business Preference, in which case the preference applied shall be the greater of the two, but not both.

If the bidder submitting the lowest responsive bid is not a "California company" and with the benefit of the reciprocal preference, a "California company's" responsive bid is equal to or less than the original lowest responsive bid, the "California company" will be awarded the contract at its submitted bid price except as provided below.

Small business bidders shall have precedence over nonsmall business bidders in that the application of the "California company" preference for which nonsmall business bidders may be eligible shall not result in the denial of the award to a small business bidder.

SECTION 4. BEGINNING OF WORK, TIME OF COMPLETION AND LIQUIDATED DAMAGES

Attention is directed to the provisions in Sections 8-1.03, "Beginning of Work," 8-1.06, "Time of Completion," 8-1.07, "Liquidated Damages," and 20-4.08, "Plant Establishment Work," of the Standard Specifications and these special provisions.

The Contractor shall furnish the Engineer with a statement from the vendor that the order for the electrical materials required for this contract has been received and accepted by the vendor; and the statement shall be furnished within 15 calendar days after the contract has been approved by the Attorney General, or the attorney appointed and authorized to represent the Department of Transportation. The statement shall give the date that the electrical materials will be shipped. If the Contractor has the necessary materials on hand, the Contractor will not be required to furnish the vendor's statement.

The work (except plant establishment work) shall be diligently prosecuted to completion before the expiration of

50 WORKING DAYS

beginning on the date that work begins, or beginning on the thirtieth calendar day after approval of the contract, whichever occurs first.

The Contractor shall pay to the State of California the sum of \$400 per day, for each and every calendar day's delay in finishing the work (except plant establishment work) in excess of the number of working days prescribed above.

The Contractor shall diligently prosecute all work (including plant establishment) to completion before the expiration of

100 WORKING DAYS

The Contractor shall pay to the State of California the sum of \$250 per day, for each and every calendar day's delay in completing the work in excess of the number of working days prescribed above.

In no case will liquidated damages of more than \$400 per day be assessed.

SECTION 5. GENERAL

SECTION 5-1. MISCELLANEOUS

5-1.00 PLANS AND WORKING DRAWINGS

When the specifications require working drawings to be submitted to the Division of Structure Design, the drawings shall be submitted to: Division of Structure Design, Documents Unit, Mail Station 9, 1801 30th Street, Sacramento, CA 95816, Telephone (916) 227-8252.

5-1.003°°LABORATORY

Section 1-1.25, "Laboratory," of the Standard Specifications is amended to read:

1-1.25°°Laboratory. The Division of Materials Engineering and Testing Services and the Division of Structural Foundations of the Department of Transportation, or established laboratories of the various Districts of the Department, or other laboratories authorized by the Department to test materials and work involved in the contract. When a reference is made in the specifications to the "Transportation Laboratory," the reference shall mean the Division of Materials Engineering and Testing Services and the Division of Structural Foundations, located at 5900 Folsom Boulevard, Sacramento, CA°°95819, Telephone (916)°227-7000.

5-1.005°°CONTRACT BONDS

Attention is directed to Section 3-1.02, "Contract Bonds," of the Standard Specifications and these special provisions. The payment bond shall be in a sum not less than the following:

1. One hundred percent of the total amount payable by the terms of the contract when the total amount payable does not equal or exceed five million dollars (\$5,000,000).
2. Fifty percent of the total amount payable by the terms of the contract when the total amount payable is not less than five million dollars (\$5,000,000) and does not exceed ten million dollars (\$10,000,000).
3. Twenty-five percent of the total amount payable by the terms of the contract when the total amount payable exceeds ten million dollars (\$10,000,000).

5-1.01°°LABOR NONDISCRIMINATION

Attention is directed to the following Notice that is required by Chapter°5 of Division°4 of Title°2, California Code of Regulations.

NOTICE OF REQUIREMENT FOR NONDISCRIMINATION PROGRAM (GOV. CODE, SECTION 12990)

Your attention is called to the "Nondiscrimination Clause", set forth in Section 7-1.01A(4), "Labor Nondiscrimination," of the Standard Specifications, which is applicable to all nonexempt state contracts and subcontracts, and to the "Standard California Nondiscrimination Construction Contract Specifications" set forth therein. The Specifications are applicable to all nonexempt state construction contracts and subcontracts of \$5000 or more.

5-1.02°°LABOR CODE REQUIREMENTS

Section 7-1.01A(1), "Hours of Labor," of the Standard Specifications is amended to read:

7-1.01A(1)°°Hours of Labor. Eight hours labor constitutes a legal day s work. The Contractor or any subcontractor under the Contractor shall forfeit, as a penalty to the State of California, \$25 for each worker employed in the execution of the contract by the respective Contractor or subcontractor for each calendar day during which that worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of the Labor Code, and in particular, Section 1810 to Section 1815, thereof, inclusive, except that work performed by employees of Contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than one and one-half times the basic rate of pay, as provided in Section 1815 thereof.

Section 7-1.01A(2), "Prevailing Wage," of the Standard Specifications is amended to read:

7-1.01A(2)°°Prevailing Wage. The Contractor and any subcontractor under the Contractor shall comply with Labor Code Sections 1774 and 1775. Pursuant to Section 1775, the Contractor and any subcontractor under the Contractor shall forfeit to the State or political subdivision on whose behalf the contract is made or awarded a penalty of not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing rates as determined by the Director of Industrial Relations for the work or craft in which the worker is employed for any public work done under the contract by the Contractor or by any subcontractor under the Contractor in violation of the provisions of the Labor Code and in particular, Labor Code Sections 1770 to 1780, inclusive. The amount of this forfeiture shall be determined by the Labor Commissioner and shall be based on consideration of the mistake, inadvertence, or neglect of the Contractor or subcontractor in failing to pay the correct rate of prevailing wages, or the previous record of the Contractor or subcontractor in meeting their respective prevailing wage obligations, or the willful failure by the Contractor or subcontractor to pay the correct rates of prevailing wages. A mistake, inadvertence, or

neglect in failing to pay the correct rate of prevailing wages is not excusable if the Contractor or subcontractor had knowledge of the obligations under the Labor Code. In addition to the penalty and pursuant to Labor Code Section 1775, the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the Contractor or subcontractor. If a worker employed by a subcontractor on a public works project is not paid the general prevailing per diem wages by the subcontractor, the prime contractor of the project is not liable for the penalties described above unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

1. The contract executed between the contractor and the subcontractor for the performance of work on the public works project shall include a copy of the provisions of Sections 1771, 1775, 1776, 1777.5, 1813, and 1815 of the Labor Code.
2. The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.
3. Upon becoming aware of the subcontractor's failure to pay the specified prevailing rate of wages to the subcontractor's workers, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.
4. Prior to making final payment to the subcontractor for work performed on the public works project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to the subcontractor's employees on the public works project and any amounts due pursuant to Section 1813 of the Labor Code.

Pursuant to Section 1775 of the Labor Code, the Division of Labor Standards Enforcement shall notify the Contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages. If the Division of Labor Standards Enforcement determines that employees of a subcontractor were not paid the general prevailing rate of per diem wages and if the Department did not retain sufficient money under the contract to pay those employees the balance of wages owed under the general prevailing rate of per diem wages, the contractor shall withhold an amount of moneys due the subcontractor sufficient to pay those employees the general prevailing rate of per diem wages if requested by the Division of Labor Standards Enforcement. The Contractor shall pay any money retained from and owed to a subcontractor upon receipt of notification by the Division of Labor Standards Enforcement that the wage complaint has been resolved. If notice of the resolution of the wage complaint has not been received by the Contractor within 180 days of the filing of a valid notice of completion or acceptance of the public works project, whichever occurs later, the Contractor shall pay all moneys retained from the subcontractor to the Department. These moneys shall be retained by the Department pending the final decision of an enforcement action.

Pursuant to the provisions of Section 1773 of the Labor Code, the Department has obtained the general prevailing rate of wages (which rate includes employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in Section 1773.8 of the Labor Code, apprenticeship or other training programs authorized by Section 3093 of the Labor Code, and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned. The general prevailing wage rates and any applicable changes to these wage rates are available at the Labor Compliance Office at the offices of the District Director of Transportation for the district in which the work is situated. For work situated in District 9, the wage rates are available at the Labor Compliance Office at the offices of the District Director of Transportation for District 6, located at Fresno. General prevailing wage rates are also available from the California Department of Industrial Relations Internet Web Site at: <http://www.dir.ca.gov>.

The wage rates determined by the Director of Industrial Relations for the project refer to expiration dates. Prevailing wage determinations with a single asterisk after the expiration date are in effect on the date of advertisement for bids and are good for the life of the contract. Prevailing wage determinations with double asterisks after the expiration date indicate that the wage rate to be paid for work performed after this date has been determined. If work is to extend past this date, the new rate shall be paid and incorporated in the contract. The Contractor shall contact the Department of Industrial Relations as indicated in the wage rate determinations to obtain predetermined wage changes.

Pursuant to Section 1773.2 of the Labor Code, general prevailing wage rates shall be posted by the Contractor at a prominent place at the site of the work.

Changes in general prevailing wage determinations which conform to Labor Code Section 1773.6 and Title 8 California Code of Regulations Section 16204 shall apply to the project when issued by the Director of Industrial Relations at least 10 days prior to the date of the Notice to Contractors for the project.

The State will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining the bid, and will not under any circumstances be considered as the basis of a claim against the State on the contract.

7-1.01A(2)(a)°°Travel and Subsistence Payments. Attention is directed to the requirements of Section 1773.8 of the Labor Code. The Contractor shall make travel and subsistence payments to each workman, needed to execute the work, in accordance with the requirements in Labor Code Section 1773.8.

The first and second paragraphs of Section 7-1.01A(3), "Payroll Records," of the Standard Specifications are amended to read:

7-1.01A(3)°°Payroll Records. ° Attention is directed to the provisions of Labor Code Section 1776, a portion of which is quoted below. Regulations implementing Labor Code Section 1776 are located in Sections 16016 through 16019 and Sections 16207.10 through 16207.19 of Title 8, California Code of Regulations.

"1776. (a)°Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

(1)°The information contained in the payroll record is true and correct.

(2)°The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.

"(b)°The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the contractor on the following basis:

(1)°A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.

(2)°A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.

(3)°A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the contractor, subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the contractor.

"(c)°The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.

"(d)°A contractor or subcontractor shall file a certified copy of the records enumerated in subdivision (a) with the entity that requested the records within 10 days after receipt of a written request.

"(e)°Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in a manner so as to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated.

"(f)°The contractor shall inform the body awarding the contract of the location of the records enumerated under subdivision (a), including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

"(g)°The contractor or subcontractor shall have 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section."

The penalties specified in subdivision (g) of Labor Code Section 1776 for noncompliance with the provisions of Section 1776 may be deducted from any moneys due or which may become due to the Contractor.

5-1.023°°INDEMNIFICATION AND INSURANCE

Section 7-1.12, "Responsibility for Damage," of the Standard Specifications is deleted. All references to Section 7-1.12 in the Contract documents shall be deemed to mean Sections 7-1.121, "Indemnification," and 7-1.122, "Insurance," as added below.

The Standard Specifications is amended by adding the following Section 7-1.121, "Indemnification," and Section 7-1.122, "Insurance," before Section 7-1.125, "Legal Action Against the Department":

7-1.121°°Indemnification. With the exception that this section shall in no event be construed to require indemnification by the Contractor to a greater extent than permitted by law, the Contractor shall defend, indemnify and save harmless the State, including its officers, directors, agents (excluding agents who are design professionals), and employees, and each of them (Indemnitees), from any and all claims, demands, causes of action, damages, costs, expenses, actual attorneys' fees, losses or liabilities, in law or in equity, of every kind and nature whatsoever (Claims), arising out of or in connection with the Contractor's performance of this contract for:

- A. Bodily injury including, but not limited to, bodily injury, sickness or disease, emotional injury or death to persons, including, but not limited to, the public, any employees or agents of the Contractor, State, Department, or any other contractor and;
- B. Damage to property of anyone including loss of use thereof;

caused or alleged to be caused in whole or in part by any negligent or otherwise legally actionable act or omission of the Contractor or anyone directly or indirectly employed by the Contractor or anyone for whose acts the Contractor may be liable.

Except as otherwise provided by law, the indemnification provisions above shall apply regardless of the existence or degree of fault of Indemnitees. The Contractor, however, shall not be obligated to indemnify Indemnitees for Claims arising from conduct delineated in Civil Code section 2782. Further, the Contractor's indemnity obligation shall not extend to Claims to the extent they arise from any defective or substandard condition of the roadway which existed at or prior to the time the Contractor commenced work, unless this condition has been changed by the work or the scope of the work requires the Contractor to maintain existing Roadway facilities and the claim arises from the Contractor's failure to maintain. The Contractor's indemnity obligation shall extend to Claims arising after the work is completed and accepted only if these Claims are directly related to alleged acts or omissions of the Contractor which occurred during the course of the work. No inspection by the Department, its employees or agents shall be deemed a waiver by the Department of full compliance with the requirements of this section.

The Contractor's obligation to defend and indemnify shall not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable to the claimant. The Contractor will respond within 30 days to the tender of any claim for defense and indemnity by the State, unless this time has been extended by the State. If the Contractor fails to accept or reject a tender of defense and indemnity within 30 days, in addition to any other remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall reasonably be considered necessary by the Department, may be retained by the State until disposition has been made of the claim or suit for damages, or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

With respect to third party claims against the Contractor, the Contractor waives any and all rights of any type to express or implied indemnity against the State, its directors, officers, employees, or agents (excluding agents who are design professionals).

7-1.122°°Insurance. Insurance shall conform to the following requirements:

7-1.122A°°Casualty Insurance The Contractor shall, at the Contractor's expense, procure and maintain insurance on all of its operations with companies acceptable to the Department as follows. All insurance shall be kept in full force and effect from the beginning of the work through final acceptance by the State. In addition, the Contractor shall maintain completed operations coverage with a carrier acceptable to the Department through the expiration of the patent deficiency in construction statute of repose set forth in Section 337.1 of the Code of Civil Procedure.

7-1.122A(1)°°Workers' Compensation and Employer's Liability Insurance. Workers' Compensation insurance shall be provided as specified in Section 7-1.01A(6), "Workers' Compensation." Employer's Liability Insurance shall be provided in amounts not less than:

- (a) \$1°000°000 for each accident for bodily injury by accident.
- (b) \$1°000°000 policy limit for bodily injury by disease.
- (c) \$1°000°000 for each employee for bodily injury by disease.

If there is an exposure of injury to the Contractors' employees under the U.S. Longshoremen's and Harbor Workers' Compensation Act, the Jones Act or under laws, regulations or statutes applicable to maritime employees, coverage shall be included for such injuries or claims.

7-1.122A(2)°°Liability Insurance. The Contractor shall carry General Liability and Umbrella or Excess Liability Insurance covering all operations by or on behalf of the Contractor providing insurance for bodily injury liability, and property damage liability for the limits of liability indicated below and including coverage for:

- (a) premises, operations and mobile equipment
- (b) products and completed operations
- (c) broad form property damage (including completed operations)
- (d) explosion, collapse and underground hazards
- (e) personal injury
- (f) contractual liability

7-1.122A(3)°°Liability Limits/Additional Insureds. The limits of liability shall be at least:

- (a) \$1°000°000 for each occurrence (combined single limit for bodily injury and property damage).
- (b) \$2°000°000 aggregate for products-completed operations.
- (c) \$2°000°000 general aggregate. This general aggregate limit shall apply separately to the Contractor's work under this Agreement.
- (d) \$5°000°000 umbrella or excess liability. For projects over \$25°000°000 only, an additional \$10°000°000 umbrella or excess liability (for a total of \$15°000°000). Umbrella or excess policy shall include products liability completed operations coverage and may be subject to \$5°000°000 or \$15°000°000 aggregate limits. Further, the umbrella or excess policy shall contain a clause stating that it takes effect (drops down) in the event the primary limits are impaired or exhausted.

The State and the Department, including their officers, directors, agents (excluding agents who are design professionals), and State employees, shall be named as additional insureds under the General Liability and Umbrella Liability Policies with respect to liability arising out of or connected with work or operations performed by or on behalf of the Contractor under this contract. Coverage for such additional insureds shall not extend to liability:

- (1) arising from any defective or substandard condition of the Roadway which existed at or prior to the time the Contractor commenced work, unless such condition has been changed by the work or the scope of the work requires the Contractor to maintain existing Roadway facilities and the claim arises from the Contractor's failure to maintain; or
- (2) for claims occurring after the work is completed and accepted unless these claims are directly related to alleged acts or omissions of the Contractor which occurred during the course of the work; or
- (3) to the extent prohibited by Section 11580.04 of the Insurance Code.

The policy shall stipulate that the insurance afforded the additional insureds shall apply as primary insurance. Any other insurance or self insurance maintained by the Department or State will be excess only and shall not be called upon to contribute with this insurance. Such additional insured coverage shall be provided by a policy provision or by an endorsement providing coverage at least as broad as Additional Insured (Form B) endorsement form CG 2010, as published by the Insurance Services Office (ISO).

7-1.122B°°Automobile Liability Insurance. The Contractor shall carry automobile liability insurance, including coverage for all owned, hired and non-owned automobiles. The primary limits of liability shall be not less than \$1°000°000 combined single limit each accident for bodily injury and property damage. The umbrella or excess liability coverage required under Section 7-1.122A(3), "Liability Limits/Additional Insureds," shall also apply to automobile liability.

7-1.122C°°Policy Forms, Endorsements and Certificates. The Contractor's General Liability Insurance shall be provided under Commercial General Liability policy form no. CG0001 as published by the Insurance Services Office (ISO) or under a policy form at least as broad as policy form no.°CG0001.

Evidence of insurance in a form acceptable to the Department, including the required "additional insured" endorsements, shall be furnished by the Contractor to the Department at or prior to the pre-construction conference. The evidence of insurance shall provide that there will be no cancellation, lapse, or reduction of coverage without thirty (30) days' prior written notice to the Department. Certificates of Insurance, as evidence of required insurance, for the General Liability, Auto Liability and Umbrella-Excess Liability policies shall set forth deductible amounts applicable to each policy and all exclusions which are added by endorsement to each policy. The Department may expressly allow deductible clauses, which it does not consider excessive, overly broad, or harmful to the interests of the State. Standard ISO form CG 0001 or similar exclusions will be allowed provided they are not inconsistent with the requirements of this section. Allowance of any additional exclusions is at the discretion of the Department. Regardless of the allowance of exclusions or deductions by the Department, the Contractor shall be responsible for any deductible amount and shall warrant that the coverage provided to the Department is consistent with the requirements of this section.

7-1.122D°°Enforcement. The Department may take any steps as are necessary to assure Contractor's compliance with its obligations. Should any insurance policy lapse or be canceled during the contract period the Contractor shall, within thirty (30) days prior to the effective expiration or cancellation date, furnish the Department with evidence of renewal or replacement of the policy. Failure to continuously maintain insurance coverage as herein provided is a material breach of contract. In the event the Contractor fails to maintain any insurance coverage required, the Department may, but is not required to, maintain this coverage and charge the expense to the Contractor or terminate this Agreement. The required insurance shall be subject to the approval of Department, but any acceptance of insurance certificates by the Department shall in no way limit or relieve the Contractor of the Contractor's duties and responsibilities under the Contract to indemnify, defend and hold harmless the State, its officers, agents, and employees. Insurance coverage in the minimum amounts set forth herein shall not be construed to relieve the Contractor for liability in excess of such coverage, nor shall it preclude the State from taking other actions as is available to it under any other provision of the contract or law. Failure of the Department to enforce in a timely manner any of the provisions of this section shall not act as a waiver to enforcement of any of these provisions at a later date.

7-1.122E°°Self-Insurance. Self-insurance programs and self-insured retentions in insurance policies are subject to separate annual review and approval by the State of evidence of the Contractor's financial capacity to respond. Additionally, self-insurance programs or retentions must provide the State with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance.

7-1.122F°°Miscellaneous Nothing contained in the Contract is intended to make the public or any member thereof a third party beneficiary of the Insurance or Indemnity provisions of these Standard Specifications, nor is any term, condition or other provision of the Contract intended to establish a standard of care owed to the public or any member thereof.

5-1.025°°ARBITRATION

The last paragraph in Section 9-1.10, "Arbitration," of the Standard Specifications, is amended to read:

Arbitration shall be initiated by a Complaint in Arbitration made in compliance with the requirements of those regulations. A Complaint in Arbitration by the Contractor shall be made not later than 90 days after the date of service in person or by mail on the Contractor of the final written decision by the Department on the claim.

5-1.03°°PAYMENT OF WITHHELD FUNDS

Section 9-1.065, "Payment of Withheld Funds," of the Standard Specifications, is amended by adding the following after the third paragraph:

Alternatively, and subject to the approval of the Department, the payment of retentions earned may be deposited directly with a person licensed under Division°6 (commencing with Section 17000) of the Financial Code as the escrow agent. Upon written request of an escrow agent that has not been approved by the Department under subdivision (c) of Section 10263 of the Public Contract Code, the Department will provide written notice to that escrow agent within 10 business days of receipt of the request indicating the reason or reasons for not approving that escrow agent. The payments will be deposited in a trust account with a Federally chartered bank or savings association within 24 hours of receipt by the escrow agent. The Contractor shall not place any retentions with the escrow agent in excess of the coverage provided to that escrow agent pursuant to subdivision (b) of Section 17314 of the Financial Code. In all respects not inconsistent with subdivision (c) of Section 10263 of the Public Contract Code, the remaining provisions of Section 10263 of the Public Contract Code shall apply to escrow agents acting pursuant to subdivision (c) of Section 10263 of the Public Contract Code.

5-1.04°°INTEREST ON PAYMENTS

Interest shall be payable on progress payments, payments after acceptance, final payments, extra work payments and claim payments as follows:

1. Unpaid progress payments, payment after acceptance and final payments shall begin to accrue interest 30 days after the Engineer prepares the payment estimate.
2. Unpaid extra work bills shall begin to accrue interest 30 days after preparation of the first pay estimate following the receipt of a properly submitted and undisputed extra work bill. To be properly submitted, the bill must be submitted within 7 days of the performance of the extra work and in accordance with the requirements of Section 9-1.03C, "Records," and Section 9-1.06, "Partial Payments," of the Standard Specifications. An undisputed extra work bill not submitted within 7 days of performance of the extra work will begin to accrue interest 30 days after the preparation of the second pay estimate following submittal of the bill.
3. The rate of interest payable for unpaid progress payments, payments after acceptance, final payments and extra work payments shall be 10 percent per annum.
4. The rate of interest payable on a claim, protest or dispute ultimately allowed under this contract shall be 6 percent per annum. Interest shall begin to accrue 61 days after the Contractor submits to the Engineer information in sufficient detail to enable the Engineer to ascertain the basis and amount of said claim, protest or dispute.

The rate of interest payable on any award in arbitration shall be 6 percent per annum if allowed under the provisions of Civil Code Section 3289.

5-1.05°°PUBLIC SAFETY

The Contractor shall provide for the safety of traffic and the public in conformance with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications and these special provisions.

The Contractor shall install temporary railing (Type°K) between a lane open to public traffic and an excavation, obstacle, or storage area when the following conditions exist:

- (1) Excavations. The near edge of the excavation is 3.6°m or less from the edge of the lane, except:
 - (a) Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
 - (b) Excavations less than 0.3-m deep.
 - (c) Trenches less than 0.3-m wide for irrigation pipe or electrical conduit, or excavations less than 0.3-m in diameter.
 - (d) Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
 - (e) Excavations in side slopes, where the slope is steeper than 1:4 (vertical:horizontal).
 - (f) Excavations protected by existing barrier or railing.
- (2) Temporarily Unprotected Permanent Obstacles. The work includes the installation of a fixed obstacle together with a protective system, such as a sign structure together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with

permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.

- (3) Storage Areas. Material or equipment is stored within 3.6°m of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these special provisions.

The approach end of temporary railing (Type°K), installed in conformance with the provisions in this section "Public Safety" and in Section 7-1.09, "Public Safety," of the Standard Specifications, shall be offset a minimum of 4.6°m from the edge of the traffic lane open to public traffic. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than 0.3-m transversely to 3°m longitudinally with respect to the edge of the traffic lane. If the 4.6-m minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary railing (Type°K) shall conform to the provisions in Section 12-3.08, "Temporary Railing (Type°K)," of the Standard Specifications. Temporary railing (Type K), conforming to the details shown on 1995 Standard Plan T3 or 1992 Standard Plan T3, may be used. Temporary railing (Type K) fabricated prior to January 1, 1993, and conforming to 1988 Standard Plan B11-30 may be used, provided the fabrication date is printed on the required Certificate of Compliance.

The fourteenth paragraph of Section 12-3.08, "Temporary Railing (Type K)," of the Standard Specifications is amended to read:

Each rail unit placed within 3 m of a traffic lane shall have a reflector installed on top of the rail as directed by the Engineer. A Type P marker panel shall also be installed at each end of railing installed adjacent to a two-lane, two-way highway and at the end facing traffic of railing installed adjacent to a one-way roadbed. If the railing is placed on a skew, the marker shall be installed at the end of the skew nearest the traveled way. Type P marker panels shall conform to the provisions in Section 82, "Markers and Delineators," except that the Contractor shall furnish the marker panels.

Reflectors on temporary railing (Type°K) shall conform to the provisions in "Approved Traffic Products" of these special provisions.

Temporary crash cushion modules shall conform to the provisions in "Temporary Crash Cushion Module" of these special provisions.

Except for installing, maintaining and removing traffic control devices, whenever work is performed or equipment is operated in the following work areas the Contractor shall close the adjacent traffic lane unless otherwise provided in the Standard Specifications and these special provisions:

Approach speed of public traffic (Posted Limit) (Kilometers Per Hour)	Work Areas
Over 72 (45 Miles Per Hour)	Within 1.8°m of a traffic lane but not on a traffic lane
56 to 72 (35 to 45 Miles Per Hour)	Within 0.9-m of a traffic lane but not on a traffic lane

The lane closure provisions of this section shall not apply if the work area is protected by permanent or temporary railing or barrier.

When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 3°m without written approval from the Engineer.

When work is not in progress on a trench or other excavation that required closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Suspended loads or equipment shall not be moved nor positioned over public traffic or pedestrians.

Full compensation for conforming to the provisions in this section "Public Safety," including furnishing and installing temporary railing (Type°K) and temporary crash cushion modules, shall be considered as included in the contract prices paid for the various items of work involved and no additional compensation will be allowed therefor.

5-1.06°°SURFACE MINING AND RECLAMATION ACT

Attention is directed to the Surface Mining and Reclamation Act of 1975, commencing in Public Resources Code, Mining and Geology, Section 2710, which establishes regulations pertinent to surface mining operations.

Material from mining operations furnished for this project shall only come from permitted sites in compliance with the Surface Mining and Reclamation Act of 1975.

The requirements of this section shall apply to all materials furnished for the project, except for acquisition of materials in conformance with Section 4-1.05, "Use of Materials Found on the Work," of the Standard Specifications.

5-1.07°°REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe, and shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In accordance with Section 25914.1 of the Health and Safety Code, all such removal of asbestos or hazardous substances including any exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

5-1.08°°YEAR 2000 COMPLIANCE

This contract is subject to Year 2000 Compliance for automated devices in the State of California. Year 2000 compliance is defined as follows:

Year 2000 compliance for automated devices in the State of California is achieved when embedded functions have or create no logical or mathematical inconsistencies when dealing with dates prior to and beyond 1999. The year 2000 is recognized and processed as a leap year. The product must also operate accurately in the manner in which it was intended for date operation without requiring manual intervention.

The Contractor shall provide the Engineer a Certificate of Compliance from the manufacturer in accordance with the provisions of Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for all automated devices furnished for the project.

5-1.09°°SUBCONTRACTOR AND DVBE RECORDS

The Contractor shall maintain records of all subcontracts entered into with certified DVBE subcontractors and records of materials purchased from certified DVBE suppliers. The records shall show the name and business address of each DVBE subcontractor or vendor and the total dollar amount actually paid each DVBE subcontractor or vendor.

Upon completion of the contract, a summary of these records shall be prepared on Form CEM-2402 (S) and certified correct by the Contractor or the Contractor's authorized representative, and shall be furnished to the Engineer.

5-1.095°°PERFORMANCE OF DVBE SUBCONTRACTORS AND SUPPLIERS

The DVBEs listed by the Contractor in response to the provisions in Section 2-1.04, "Submission of DVBE Information," and Section 3, "Award and Execution of Contract," of these special provisions, which are determined by the Department to be certified DVBEs, shall perform the work and supply the materials for which they are listed, unless the Contractor has received prior written authorization to perform the work with other forces or to obtain the materials from other sources.

Authorization to utilize other forces or sources of materials may be requested for the following reasons:

- A. The listed DVBE, after having had a reasonable opportunity to do so, fails or refuses to execute a written contract, when the written contract, based upon the general terms, conditions, plans and specifications for the project, or on the terms of the subcontractor's or supplier's written bid, is presented by the Contractor.
- B. The listed DVBE becomes bankrupt or insolvent.
- C. The listed DVBE fails or refuses to perform the subcontract or furnish the listed materials.
- D. The Contractor stipulated that a bond was a condition of executing a subcontract and the listed DVBE subcontractor fails or refuses to meet the bond requirements of the Contractor.
- E. The work performed by the listed subcontractor is substantially unsatisfactory and is not in substantial conformance with the plans and specifications, or the subcontractor is substantially delaying or disrupting the progress of the work.
- F. The listed DVBE subcontractor is not licensed pursuant to the Contractor's License Law.
- G. It would be in the best interest of the State.

The Contractor shall not be entitled to payment for the work or material unless it is performed or supplied by the listed DVBE or by other forces (including those of the Contractor) pursuant to prior written authorization of the Engineer.

5-1.097°°SUBCONTRACTING

Attention is directed to the provisions in Section 8-1.01, "Subcontracting," of the Standard Specifications, Section°2, "Proposal Requirements and Conditions," Section 2-1.04, "Submission of DVBE Information," and Section°3, "Award and Execution of Contract," of these special provisions and these special provisions.

Section 8-1.01 of the Standard Specifications is amended by adding the following before the sixth paragraph:

Pursuant to the provisions of Section 6109 of the Public Contract Code, the Contractor shall not perform work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at:

<http://www.dir.ca.gov/DLSE/Debar.html>.

The DVBE information furnished under Section 2-1.04, "Submission of DVBE Information," of these special provisions is in addition to the subcontractor information required to be furnished in Section 8-1.01, "Subcontracting," and Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications.

Section 10115 of the Public Contract Code requires the Department to implement provisions to establish a goal for Disabled Veteran Business Enterprise (DVBE) participation in highway contracts that are State funded. As a part of this requirement:

- 1.°°No substitution of a DVBE subcontractor shall be made at any time without the written consent of the Department, and
- 2.°°If a DVBE subcontractor is unable to perform successfully and is to be replaced, the Contractor shall make good faith efforts to replace the original DVBE subcontractor with another DVBE subcontractor.

The provisions in Section 2-1.02, "Disabled Veteran Business Enterprise (DVBE)," of these special provisions that DVBEs shall be certified on the date bids are opened does not apply to DVBE substitutions after award of the contract.

5-1.098°°PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

Attention is directed to the provisions in Sections 10262 and 10262.5 of the Public Contract Code and Section°7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

5-1.10°°AREAS FOR CONTRACTOR'S USE

Attention is directed to the requirements specified in Section 7-1.19, "Rights in Land and Improvements," of the Standard Specifications and these special provisions.

The highway right of way shall be used only for purposes that are necessary to perform the required work. The Contractor shall not occupy the right of way, or allow others to occupy the right of way, for purposes which are not necessary to perform the required work.

There are no State-owned parcels adjacent to the right of way for the exclusive use of the Contractor within the contract limits. The Contractor shall secure, at the Contractor's own expense, any area required for plant sites, storage of equipment or materials, or for other purposes.

No area is available within the contract limits for the exclusive use of the Contractor. However, temporary storage of equipment and materials on State property may be arranged with the Engineer, subject to the prior demands of State maintenance forces and to all other contract requirements. Use of the Contractor's work areas and other State-owned property shall be at the Contractor's own risk, and the State shall not be held liable for any damage to or loss of materials or equipment located within such areas.

5-1.11°°PAYMENTS

Attention is directed to Sections 9-1.06, "Partial Payments," and 9-1.07, "Payment After Acceptance," of the Standard Specifications and these special provisions.

For the purpose of making partial payments pursuant to Section 9-1.06, "Partial Payments," of the Standard Specifications, the amount set forth for the contract items of work hereinafter listed shall be deemed to be the maximum value of the contract item of work which will be recognized for progress payment purposes:

Clearing and Grubbing \$ 5,000

After acceptance of the contract pursuant to Section 7-1.17, "Acceptance of Contract," of the Standard Specifications, the amount, if any, payable for a contract item of work in excess of the maximum value for progress payment purposes hereinabove listed for the item, will be included for payment in the first estimate made after acceptance of the contract.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

5-1.12°°FIRE PLAN

The Contractor shall cooperate with local fire prevention authorities in eliminating hazardous fire conditions and shall implement the following fire plan under the direction of the Engineer:

- A. The Contractor shall be responsible for:
 - (a) obtaining the phone number of the nearest fire suppression agency and providing this phone number to the Engineer as a first order of work,
 - (b) immediately reporting to the nearest fire suppression agency all fires°° occurring within the limits of the project,
 - (c) preventing all project personnel from setting open fires not a part of the work, unless the Engineer determines that the fire hazard is negligible,
 - (d) preventing the escape of fires caused directly or indirectly as a result of project operations and extinguishing these fires.
- B. Except for motor trucks, truck tractors, buses and passenger vehicles, the Contractor shall equip all hydro-carbon fueled engines, both stationary and mobile, including motorcycles, with spark arresters that meet U.S. Forest Service Standards as specified in the Forest Service Spark Arrester Guide and shall maintain the spark arresters in good operating condition. Spark arresters are not required by the State Department of Forestry or the U.S. Forest Service on equipment powered by properly maintained exhaust-driven turbo-charged engines, or when equipped with scrubbers with properly maintained water levels.
The Forest Service Spark Arrester Guide is available at the Department of Transportation District Offices.
- C. Toilets shall have a metal receptacle, at least 150°mm in diameter by 200°mm deep, half-filled with sand for ashes and discarded smokes, and within easy reach of anyone utilizing the facility.
- D. Equipment service areas, parking areas and gas and oil storage areas shall be located so that there is no flammable material within a radius of at least 15°m of these areas. Small mobile or stationary engine sites shall be cleared of flammable material for a radius of at least 4.6°m from the engine.
- E. The Contractor shall furnish each piece of equipment with the following:
 - (a) one shovel and one fully charged fire extinguisher UL rated at 4°B:C or more on each truck, personnel vehicle tractor, grader or other heavy equipment,
 - (b) one shovel and one back-pack 20-L water-filled tank with pump for each welder,
 - (c) one shovel or one chemical pressurized fire extinguisher, fully charged, for each gasoline-powered tool, including but not limited to chain saws, soil augers, rock drills, etc. The required fire tools shall, at no time, be farther than 8°m from the point of operation of the power tool. Fire extinguishers shall be of the type and size required by the California Public Resource Code Section 4431 and the California Administrative Code, Title 14, Section 1234,
 - (d) all shovels shall be size "O" or larger and shall be not less than 1.2°m in length.
- F. The Contractor shall furnish a pickup truck and driver that will be available for fire control during all working hours and as specified herein.
 - (a) The truck shall be equipped with 2 shovels and 2°back-pack 20-L water-filled tanks with pumps, or other fire tools substituted on a one to one basis at the option of the Contractor and approved by the Engineer.
 - (b) In addition to being available at the site of the work, the truck and operator shall patrol the area of construction for not less than one-half hour after the shutdown of the work.

Full compensation for conforming to the provisions herein shall be considered as included in the contract prices paid for the various items of work and no separate payment will be made therefor.

SECTION 6. (BLANK)

SECTION 7. (BLANK)

SECTION 8. MATERIALS

SECTION 8-1. MISCELLANEOUS

8-1.01 SUBSTITUTION OF NON-METRIC MATERIALS AND PRODUCTS

Only materials and products conforming to the requirements of the specifications shall be incorporated in the work. When metric materials and products are not available, and when approved by the Engineer, and at no cost to the State, materials and products in the inch-pound (imperial) system which are of equal quality and of the required properties and characteristics for the purpose intended, may be substituted for the equivalent metric materials and products, subject to the following provisions:

Materials and products shown on the plans or in the special provisions as being equivalent may be substituted for the metric materials and products specified or detailed on the plans.

Before other non-metric materials and products will be considered for use the Contractor shall furnish, at the Contractor's expense, evidence satisfactory to the Engineer that the materials and products proposed for use are equal to or better than the materials and products specified or detailed on the plans. The burden of proof as to the quality and suitability of substitutions shall be upon the Contractor and the Contractor shall furnish necessary information as required by the Engineer. The Engineer will be the sole judge as to the quality and suitability of the substituted materials and products and the Engineer's decision will be final.

When the Contractor elects to substitute non-metric materials and products, including materials and products shown on the plans or in the special provisions as being equivalent, the list of sources of material as specified in Section 6-1.01, "Source of Supply and Quality of Materials," of the Standard Specification shall include a list of substitutions to be made and contract items involved. In addition, for a change in design or details the Contractor shall submit plans and working drawings in conformance with Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications.

Unless otherwise specified, the following substitutions of materials and products will be allowed:

SUBSTITUTION TABLE FOR SIZES OF HIGH STRENGTH STEEL FASTENERS

ASTM Designation: A 325M

METRIC SIZE SHOWN ON THE PLANS mm x thread pitch	IMPERIAL SIZE TO BE SUBSTITUTED inch
M16 x 2	5/8
M20 x 2.5	3/4
M22 x 2.5	7/8
M24 x 3	1
M27 x 3	1-1/8
M30 x 3.5	1-1/4
M36 x 4	1-1/2

SUBSTITUTION TABLE FOR PLAIN WIRE REINFORCEMENT, ASTM Designation: A°82

METRIC SIZE SHOWN ON THE PLANS mm ²	US CUSTOMARY UNITS SIZE TO BE SUBSTITUTED inch ² x 100
MW9	W1.4
MW10	W1.6
MW13	W2.0
MW15	W2.3
MW19	W2.9
MW20	W3.1
MW22	W3.5
MW25	W3.9, except W3.5 in piles only
MW26	W4.0
MW30	W4.7
MW32	W5.0
MW35	W5.4
MW40	W6.2
MW45	W6.5
MW50	W7.8
MW55	W8.5, except W8.0 in piles only
MW60	W9.3
MW70	W10.9, except W11.0 in piles only
MW80	W12.4
MW90	W14.0
MW100	W15.5

SUBSTITUTION TABLE FOR BAR REINFORCEMENT

METRIC BAR DESIGNATION NUMBER SHOWN ON THE PLANS	EQUIVALENT IMPERIAL BAR DESIGNATION NUMBER TO BE SUBSTITUTED
13	4
16	5
19	6
22	7
25	8
29	9
32	10
36	11
43	14
57	18

No adjustment will be required in spacing or total number of reinforcing bars due to a difference in minimum yield strength between metric and non-metric bars.

The sizes in the following tables of materials and products are exact conversions of metric sizes of materials and products and are listed as acceptable equivalents:

CONVERSION TABLE FOR SIZES OF:

- (1) STEEL FASTENERS FOR GENERAL APPLICATIONS, ASTM Designation: A°307 or AASHTO Designation: M°314, Grade 36 or 55, and
 (2) HIGH STRENGTH STEEL FASTENERS, ASTM°Designation: A°325 or A°449

METRIC SIZE SHOWN ON THE PLANS mm	EQUIVALENT IMPERIAL SIZE inch
6, or 6.35	1/4
8 or 7.94	5/16
10, or 9.52	3/8
11, or 11.11	7/16
13 or 12.70	1/2
14, or 14.29	9/16
16, or 15.88	5/8
19, or 19.05	3/4
22, or 22.22	7/8
24, 25, or 25.40	1
29, or 28.58	1-1/8
32, or 31.75	1-1/4
35, or 34.93	1-3/8
38 or 38.10	1-1/2
44, or 44.45	1-3/4
51, or 50.80	2
57, or 57.15	2-1/4
64, or 63.50	2-1/2
70 or 69.85	2-3/4
76, or 76.20	3
83, or 82.55	3-1/4
89 or 88.90	3-1/2
95, or 95.25	3-3/4
102, or 101.60	4

CONVERSION TABLE FOR NOMINAL THICKNESS OF SHEET METAL

UNCOATED HOT AND COLD ROLLED SHEETS		HOT-DIPPED ZINC COATED SHEETS (GALVANIZED)	
METRIC THICKNESS SHOWN ON THE PLANS	EQUIVALENT US STANDARD GAGE	METRIC THICKNESS SHOWN ON THE PLANS	EQUIVALENT GALVANIZED SHEET GAGE
mm	inch	mm	inch
7.94	0.3125	4.270	0.1681
6.07	0.2391	3.891	0.1532
5.69	0.2242	3.510	0.1382
5.31	0.2092	3.132	0.1233
4.94	0.1943	2.753	0.1084
4.55	0.1793	2.372	0.0934
4.18	0.1644	1.994	0.0785
3.80	0.1495	1.803	0.0710
3.42	0.1345	1.613	0.0635
3.04	0.1196	1.461	0.0575
2.66	0.1046	1.311	0.0516
2.28	0.0897	1.158	0.0456
1.90	0.0747	1.006 or 1.016	0.0396
1.71	0.0673	0.930	0.0366
1.52	0.0598	0.853	0.0336
1.37	0.0538	0.777	0.0306
1.21	0.0478	0.701	0.0276
1.06	0.0418	0.627	0.0247
0.91	0.0359	0.551	0.0217
0.84	0.0329	0.513	0.0202
0.76	0.0299	0.475	0.0187
0.68	0.0269	-----	-----
0.61	0.0239	-----	-----
0.53	0.0209	-----	-----
0.45	0.0179	-----	-----
0.42	0.0164	-----	-----
0.38	0.0149	-----	-----

CONVERSION TABLE FOR WIRE

METRIC THICKNESS SHOWN ON THE PLANS mm	EQUIVALENT USA STEEL WIRE THICKNESS inch	GAGE NO.
6.20	0.244	3
5.72	0.225	4
5.26	0.207	5
4.88	0.192	6
4.50	0.177	7
4.11	0.162	8
3.76	0.148	9
3.43	0.135	10
3.05	0.120	11
2.69	0.106	12
2.34	0.092	13
2.03	0.080	14
1.83	0.072	15
1.57	0.062	16
1.37	0.054	17
1.22	0.048	18
1.04	0.041	19
0.89	0.035	20

CONVERSION TABLE FOR PIPE PILES

METRIC SIZE SHOWN ON THE PLANS mm x mm	EQUIVALENT IMPERIAL SIZE inch x inch
PP 360 x 4.55	NPS 14 x 0.179
PP 360 x 6.35	NPS 14 x 0.250
PP 360 x 9.53	NPS 14 x 0.375
PP 360 x 11.12	NPS 14 x 0.438
PP 406 x 12.70	NPS 16 x 0.500
PP 460 x T	NPS 18 x T"
PP 508 x T	NPS 20 x T"
PP 559 x T	NPS 22 x T"
PP 610 x T	NPS 24 x T"
PP 660 x T	NPS 26 x T"
PP 711 x T	NPS 28 x T"
PP 762 x T	NPS 30 x T"
PP 813 x T	NPS 32 x T"
PP 864 x T	NPS 34 x T"
PP 914 x T	NPS 36 x T"
PP 965 x T	NPS 38 x T"
PP 1016 x T	NPS 40 x T"
PP 1067 x T	NPS 42 x T"
PP 1118 x T	NPS 44 x T"
PP 1219 x T	NPS 48 x T"
PP 1524 x T	NPS 60 x T"

The thickness in inches (T") represents an exact conversion of the metric thickness in millimeters (T).

CONVERSION TABLE FOR STRUCTURAL TIMBER AND LUMBER

METRIC MINIMUM DRESSED DRY, SHOWN ON THE PLANS mm x mm	METRIC MINIMUM DRESSED GREEN, SHOWN ON THE PLANS mm x mm	EQUIVALENT NOMINAL US SIZE inch x inch
19x89	20x90	1x4
38x89	40x90	2x4
64x89	65x90	3x4
89x89	90x90	4x4
140x140	143x143	6x6
140x184	143x190	6x8
184x184	190x190	8x8
235x235	241x241	10x10
286x286	292x292	12x12

CONVERSION TABLE FOR NAILS AND SPIKES

METRIC COMMON NAIL, SHOWN ON THE PLANS Length, mm Diameter, mm	METRIC BOX NAIL, SHOWN ON THE PLANS Length, mm Diameter, mm	METRIC SPIKE, SHOWN ON THE PLANS Length, mm Diameter, mm	EQUIVALENT IMPERIAL SIZE Penny-weight
50.80 2.87	50.80 2.51	————	6d
63.50 3.33	63.50 2.87	————	8d
76.20 3.76	76.20 3.25	76.20 4.88	10d
82.55 3.76	82.55 3.25	82.55 4.88	12d
88.90 4.11	88.90 3.43	88.90 5.26	16d
101.60 4.88	101.60 3.76	101.60 5.72	20d
114.30 5.26	114.30 3.76	114.30 6.20	30d
127.00 5.72	127.00 4.11	127.00 6.68	40d
————	————	139.70 7.19	50d
————	————	152.40 7.19	60d

8-1.02°° APPROVED TRAFFIC PRODUCTS

The Department maintains a List of Approved Traffic Products. The Engineer shall not be precluded from sampling and testing products on the List of Approved Traffic Products.

The manufacturer of products on the List of Approved Traffic Products shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," of the Standard Specifications for each type of traffic product supplied.

The following is the List of Approved Traffic Products:

PAVEMENT MARKERS, PERMANENT TYPE

REFLECTIVE

Apex, Model 921 (100°mm x 100°mm)

Pavement Markers, Inc., "Hye-Lite" (100°mm x 100°mm)

Ray-O-Lite, Models SS (100°mm x 100°mm), RS (100°mm x 100°mm) and AA (100°mm x 100°mm)

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Stimsonite, Models 88 (100 mm x 100 mm), 911 (100°mm x 100°mm), 953 (70°mm x 114°mm)
3M Series 290 (89°mm x 100°mm)
Ray-O-Lite, Model 2002 (58°mm x 117°mm)*
Stimsonite, Model 948 (58°mm x 119°mm)*

*Not to be used on asphalt concrete surfaces in desert regions as determined by the Engineer

REFLECTIVE WITH ABRASION RESISTANT SURFACE (ARS)

Ray-O-Lite "AA" ARS (100°mm x 100°mm)
Stimsonite, Models 911 (100°mm x 100°mm), 953 (70°mm x 114°mm)
3M Series 290 (89°mm x 100°mm)
Ray-O-Lite, Model 2002 (58°mm x 117°mm)*
Stimsonite, Model 948 (58°mm x 119°mm)*

*Not to be used on asphalt concrete surfaces in desert regions as determined by the Engineer

REFLECTIVE WITH ABRASION RESISTANT SURFACE (ARS)

(Used for recessed applications)

Stimsonite, Model 948 (58°mm x 119°mm)*
Ray-O-Lite, Model 2002 (58°mm x 117°mm)*
Stimsonite, Model 944SB (51°mm x 100°mm)*
Ray-O-Lite, Model 2004 ARS (51°mm x 100°mm)*

*For use only in 114°mm wide (older) recessed slots

NON-REFLECTIVE FOR USE WITH EPOXY ADHESIVE, 100°mm Round

Apex Universal (Ceramic)
Highway Ceramics, Inc. (Ceramic)
U.S. Three Ring Industry (Ceramic, white only)

NON-REFLECTIVE FOR USE WITH BITUMEN ADHESIVE, 100°mm Round

Apex Universal (Ceramic)
Apex Universal, Model 929 (ABS)
Elgin Molded Plastics, "Empco-Lite" Model 900 (ABS)
Highway Ceramics, Inc. (Ceramic)
Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
Interstate Sales, "Diamond Back" (ABS) and (Polypropylene)
Alpine Products, D-Dot (ABS)
Pavement Markers, Inc., (Marker Supply) - Models A1107 and AY1108 (ABS)
Road Creations, Model RCB4NR (Acrylic)

PAVEMENT MARKERS, TEMPORARY TYPE

TEMPORARY MARKERS FOR LONG TERM DAY/NIGHT USE (6 months or less)

Apex Universal, Model 924 (100°mm x 100°mm)
Davidson Plastics, Model 3.0 (100°mm x 100°mm)
Elgin Molded Plastics, "Empco-Lite" Model 901 (100°mm Round)
Road Creations, Model R41C (100°mm x 100°mm)
Vega Molded Products "Temporary Road Marker" (75°mm x 100°mm)

TEMPORARY MARKERS FOR SHORT TERM DAY/NIGHT USE (14 days or less)
(For seal coat or chip seal applications, clear protective covers are required)

Apex Universal, Model 932
Davidson Plastics, Models T.O.M., T.R.P.M., and "HH" (High Heat)
Hi-Way Safety, Inc., Model 1280/1281

STRIPING AND PAVEMENT MARKING MATERIALS

PERMANENT TRAFFIC STRIPING AND PAVEMENT MARKING TAPE

Advanced Traffic Marking, Series 300 and 400
Brite-Line, Series 1000
Swarco Industries, "Director 35" (For transverse application only)
Swarco Industries, "Director 60"
3M, "Stamark" Series 380 and 5730
3M, "Stamark" Series A320 Bisymmetric (For use on low-volume roadways only)
3M, "Stamark" Series A420, A440, N420, and N440 (For transverse application only)

TEMPORARY (REMOVABLE) STRIPING AND PAVEMENT MARKING TAPE (6 months or less)

Brite-Line, Series 100
P.B. Laminations, Aztec, Grade 102
Swarco Industries, "Director-2"
3M, "Stamark," Series A620
3M Series A145 Removable Black Line Mask
(Black Tape: For use only on Asphalt Concrete Surfaces)
Advanced Traffic Marking Black "Hide-A-Line"
(Black Tape: For use only on Asphalt Concrete Surfaces)

PREFORMED THERMOPLASTIC (Heated in place)

Flint Trading, "Premark" and "Premark 20/20 Flex"
Pavemark, "Hotape"

REMOVABLE TRAFFIC PAINT

Belpro, Series 250/252 and No. 93 Remover

CLASS 1 DELINEATORS

ONE-PIECE DRIVEABLE FLEXIBLE TYPE, 1700°mm

Carsonite, Curve-Flex CFRM-400
Carsonite, Roadmarker CRM-375
Davidson Plastics, "Flexi-Guide Models 400 and 566"
FlexStake, Model 654TM
GreenLine Models HWD1-66 and CGD1-66
J. Miller Industries, Model JMI-375 (with soil anchor)

SPECIAL USE FLEXIBLE TYPE, 1700°mm

Carsonite, "Survivor" with 450°mm U-Channel base
FlexStake, Model 604
GreenLine Models HWD and CGD (with 450°mm U-Channel base)
Safe-Hit with 200 mm pavement anchor (SH248-GP1)
Safe-Hit with 380 mm soil anchor (SH248-GP2) and with 450 mm soil anchor (SH248-GP3)

SURFACE MOUNT FLEXIBLE TYPE, 1200°mm

Bent Manufacturing Company, "Masterflex" Model MF-180EX-48
Carsonite, "Super Duck II"
FlexStake, Surface Mount, Models 704 and 754TM

CHANNELIZERS

SURFACE MOUNT TYPE, 900°mm

Bent Manufacturing Company, "Masterflex" Models MF-360-36 (Round) and MF-180-36 (Flat)
Carsonite, "Super Duck" (Flat SDF-436, Round SDR-336)
Carsonite, Super Duck II Model SDCF203601MB "The Channelizer"
Davidson Plastics, Flex-Guide Models FG300LD and FG300UR
FlexStake, Surface Mount, Models 703 and 753TM
GreenLine, Model SMD-36
The Line Connection, "Dura-Post" Model DP36-3 (Permanent)
The Line Connection, "Dura-Post" Model DP36-3C (Temporary)
Repo, Models 300 and 400
Safe-Hit, Guide Post, Model SH236SMA

CONICAL DELINEATORS, 1070°mm

(For 700°mm Traffic Cones, see Standard Specifications)

Bent Manufacturing Company "T-Top"
Plastic Safety Systems "Navigator-42"
Roadmaker Company "Stacker"
Traffix Devices "Grabber"

OBJECT MARKERS

TYPE "K", 450°mm

Carsonite, Model SMD-615
FlexStake, Model 701KM
Repo, Models 300 and 400
Safe-Hit, Model SH718SMA
The Line Connection, Model DP21-4K

TYPE "K-4", 450-600°mm

(Shown as Type "Q" in the Traffic Manual)

Carsonite, Super Duck II
FlexStake, Model 701KM
Repo, Models 300 and 400
Safe-Hit, Models SH824SMA_WA and SH824GP3_WA
The Line Connection, Model "DP21-4Q"

TEMPORARY RAILING (TYPE K) REFLECTORS AND CONCRETE BARRIER MARKERS

IMPACTABLE TYPE

ARTUK, "FB"
Davidson Plastics, Model PCBM-12
Duraflex Corp., "Flexx 2020" and "Electriflexx"

NON-IMPACTABLE TYPE

ARTUK, JD Series
Stimsonite, Model 967 (with 83°mm Acrylic cube corner reflector)
Stimsonite, Model 967LS
Vega Molded Products, Models GBM and JD

THREE BEAM BARRIER MARKERS

(For use to the left of traffic)

Duraflex Corp., "Railrider"
Davidson Plastics, "Mini" (75°mm x 254°mm)

CONCRETE BARRIER DELINEATORS, 400°mm

(For use to the right of traffic. When mounted on top of barrier, top of reflective element at 1200°mm)

Davidson Plastics, Model PCBM T-16
Safe-Hit, Model SH216RBM

CONCRETE BARRIER-MOUNTED MINI-DRUM (260°mm x 360°mm x 570°mm)

Stinson Equipment Company "SaddleMarker"

SOUND WALL DELINEATOR

(Applied to a vertical surface. Top of reflective element at 1200°mm)

Davidson Plastics, PCBM S-36

GUARD RAILING DELINEATOR

(Top of reflective element at 1200°mm)

WOOD POST TYPE, 686°mm

Carsonite, Model 427
Davidson Plastics FG 427 and FG 527
FlexStake, Model 102GR
GreenLine GRD 27
J. Miller Model JMI-375G
Safe-Hit, Model SH227GRD

STEEL POST TYPE

Carsonite, Model CFGR-327 with CFGRBK300 Mounting Bracket

REFLECTIVE SHEETING FOR:

CHANNELIZERS, BARRIER MARKERS, AND DELINEATORS

3M, High Intensity
Reflexite, PC-1000, Metalized Polycarbonate
Reflexite, AC-1000, Acrylic
Reflexite, AP-1000, Metalized Polyester
Reflexite, AR-1000, Abrasion Resistant Coating
Stimsonite, Series 6200 (For rigid substrate devices only)

TRAFFIC CONES, 330°mm Sleeves

Reflexite SB (Polyester), Vinyl or "TR" (Semi-transparent)
Contract No. 05-398504

TRAFFIC CONES, 100°mm and 150°mm Sleeves

3M Series 3840
Reflexite Vinyl, "TR" (Semi-transparent) or "Conformalite"

BARRELS AND DRUMS

Reflexite, "Super High Intensity" or "High Impact Drum Sheeting"
3M Series 3810

BARRICADES, Type I: Engineering Grade

American Decal, Adcolite
Avery Dennison, 1500 and 1600
3M, Scotchlite, Series CW

BARRICADES, Type II: Super Engineering Grade

Avery Dennison, "Fasign" 2500 Series
Kiwalite, Type II
Nikkalite 1800 Series

SIGNS, Type II: Super Engineering Grade

Avery Dennison, "Fasign" 2500 Series
Kiwalite, Type II
Nikkalite 1800 Series

SIGNS, Type III: High Performance

3M, Series 3800
Nippon Carbide, Nikkalite Brand Ultralite Grade II

SIGNS, Type IV: High Performance

Stimsonite Series 6200

SIGNS, Type VI: Roll-Up Signs

Reflexite, Vinyl (Orange), Reflexite "SuperBright" (Fluorescent orange)
3M Series RS34 (Orange) and RS20 (Fluorescent orange)

SIGN SUBSTRATE FOR CONSTRUCTION AREA SIGNS

ALUMINUM

FIBERGLASS REINFORCED PLASTIC (FRP)

Sequentia, "Polyplate"
Fiber-Brite

8-1.03°°ENGINEERING FABRICS

Engineering fabrics shall conform to the requirements in Section 88, "Engineering Fabrics," of the Standard Specifications and these special provisions.

Filter fabric for this project shall be ultraviolet ray (UV) protected.

The requirement that UV treated fabrics be submitted to the Transportation Laboratory at least 45 days prior to use shall not apply.

SECTION 8-2.°°(BLANK)

SECTION 8-3.°°WELDING

8-3.01°°WELDING ELECTRODES

Flux core welding electrodes conforming to the requirements of AWS°A5.20 E6XT-4 or E7XT-4 shall not be used to perform any type of welding for this project.

SECTION 9.°°(BLANK)

SECTION 10.°°CONSTRUCTION DETAILS

SECTION 10-1.°°GENERAL

10-1.01°°ORDER OF WORK

Order of work shall conform to the provisions in Section 5-1.05, "Order of Work," of the Standard Specifications and these special provisions.

Attention is directed to "Fire Plan" of these special provisions regarding providing the Engineer with the phone number of the nearest fire suppression agency.

The first order of work shall be to place the order for the temporary signal system equipment.

Some plants required for this project may not be readily available and may have to be grown specifically for this project. The Contractor shall furnish the Engineer with a statement from the vendor that the order for the plants to be grown for this contract, including inspection plants, has been received and accepted by the vendor. The statement shall be furnished within 15 days after the contract has been approved. The statement from the vendor shall also include the names, sizes, quantities and geographic origin of plants ordered and the anticipated dates of delivery. The Contractor shall notify the Engineer, in writing, when the vendor has started to grow the plants.

The Contractor shall place orders for replacement plants at the appropriate time with the vendor so that roots of the replacement plants are not in a root-bound condition.

The Contractor shall furnish the Engineer with a statement from the vendor that the order for the seed required for this contract has been received and accepted by the vendor. The statement shall be furnished not less than 30 days prior to applying seeds. The statement from the vendor shall also include the names, geographic origin, quantity of seed ordered, and the anticipated date of delivery.

Attention is directed to "Maintaining Traffic" and "Temporary Pavement Delineation" of these special provisions and to the stage construction sheets of the plans.

The work shall be performed in conformance with the stages of construction shown on the plans. Nonconflicting work in subsequent stages may proceed concurrently with work in preceding stages, provided satisfactory progress is maintained in the preceding stages of construction.

In each stage, after completion of the preceding stage, the first order of work shall be the removal of existing pavement delineation as directed by the Engineer. Pavement delineation removal shall be coordinated with new delineation so that lane lines are provided at all times on traveled ways open to public traffic.

Before obliterating any pavement delineation that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall also include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings. Full compensation for referencing pavement delineation shall be considered as included in the contract prices paid for new pavement delineation and no additional compensation will be allowed therefor.

10-1.02°°WATER POLLUTION CONTROL

Water pollution control work shall conform to the requirements in Section 7-1.01G, "Water Pollution," of the Standard Specifications, and these special provisions.

Water pollution control work shall conform to the requirements in the Construction Contractor's Guide and Specifications of the Caltrans Storm Water Quality Handbooks, dated April 1997, and addenda thereto issued up to and including the date of advertisement of the project, hereafter referred to as the "Handbook." Copies of the Handbook may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900°Royal°Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520.

The Contractor shall become fully informed of, and comply with the applicable provisions of the Handbook and Federal, State and local regulations that govern the Contractor's operations and storm water discharges from both the project site and areas of disturbance outside the project limits during construction.

Unless arrangements for disturbance of areas outside the project limits are made by the Department and made part of the contract, it is expressly agreed that the Department assumes no responsibility to the Contractor or property owner whatsoever with respect to any arrangements made between the Contractor and property owner to allow disturbance of areas outside the project limits.

The Contractor shall be responsible for the costs and for any liability imposed by law as a result of the Contractor's failure to comply with the requirements set forth in this section "Water Pollution Control" including, but not limited to, compliance with the applicable provisions of the Handbook and Federal, State and local regulations. For the purposes of this paragraph, costs and liabilities include but are not limited to fines, penalties and damages whether assessed against the State or the Contractor, including those levied under the Federal Clean Water Act and the State Porter Cologne Water Quality Act.

In addition to any remedy authorized by law, so much of the money due the Contractor under the contract that shall be considered necessary by the Department may be retained by the State of California until disposition has been made of the costs and liabilities.

The retention of money due the Contractor shall be subject to the following:

1. The Department will give the Contractor 30 days notice of its intention to retain funds from any partial payment which may become due to the Contractor prior to acceptance of the contract. Retention of funds from any payment made after acceptance of the contract may be made without prior notice to the Contractor.
2. No retention of additional amounts out of partial payments will be made if the amount to be retained does not exceed the amount being withheld from partial payments pursuant to Section 9-1.06, "Partial Payments," of the Standard Specifications.
3. If the Department has retained funds and it is subsequently determined that the State is not subject to the costs and liabilities in connection with the matter for which the retention was made, the Department shall be liable for interest on the amount retained at the legal rate of interest for the period of the retention.

Conformance with the requirements of this section "Water Pollution Control," shall not relieve the Contractor from the Contractor's responsibilities, as provided in Sections 7-1.11, "Preservation of Property," 7-1.121, "Indemnification," and 7-1.122, "Insurance," of the Standard Specifications.

WATER POLLUTION CONTROL PROGRAM PREPARATION, APPROVAL AND UPDATES

As part of the water pollution control work, a Water Pollution Control Program, hereafter referred to as the "WPCP," is required for this contract. The WPCP shall conform to the requirements in Section 7-1.01G, "Water Pollution," of the Standard Specifications, the requirements in the Handbook, and these special provisions.

No work having potential to cause water pollution, as determined by the Engineer, shall be performed until the WPCP has been approved by the Engineer.

Within 15 days after the approval of the contract, the Contractor shall submit 3 copies of the WPCP to the Engineer. The Contractor shall allow 3 days for the Engineer to review the WPCP. If revisions are required, as determined by the Engineer, the Contractor shall revise and resubmit the WPCP within 3 days of receipt of the Engineer's comments and shall allow 3 days for the Engineer to review the revisions. Upon the Engineer's approval of the WPCP, 3 additional copies of the WPCP incorporating the required changes shall be submitted to the Engineer. Minor changes or clarifications to the initial submittal may be made and attached as amendments to the WPCP. In order to allow construction activities to proceed, the Engineer may conditionally approve the WPCP while minor revisions or amendments are being completed.

The objectives of the WPCP shall be to identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and to identify, construct, implement and maintain water pollution control measures, hereafter referred to as control measures, to reduce to the extent feasible pollutants in storm water discharges from the construction site during construction under this contract.

The WPCP shall incorporate control measures in the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Sediment tracking control practices;
4. Wind erosion control practices; and
5. Nonstorm water management and waste management and disposal control practices.

Specific objectives and minimum requirements for each category of control measures are contained in the Handbook.

The Contractor shall consider the objectives and minimum requirements presented in the Handbook for each of the above categories. When minimum requirements are listed for any category, the Contractor shall incorporate into the WPCP and implement on the project, one or more of the listed minimum controls required in order to meet the pollution control objectives for the category. In addition, the Contractor shall consider other control measures presented in the Handbook and shall incorporate into the WPCP and implement on the project the control measures necessary to meet the objectives of the WPCP. The Contractor shall document the selection process in accordance with the procedure specified in the Handbook.

The WPCP shall include, but not be limited to, the following items as described in the Handbook:

1. Project description and Contractor's certification;
2. Project information;
3. Pollution sources, control measures, and water pollution control drawings; and
4. Amendments, if any.

The Contractor shall amend the WPCP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Engineer. The WPCP shall also be amended if the WPCP has not achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially approved WPCP, which are required on the project to control water pollution effectively. Amendments to the WPCP shall be submitted for review and approval by the Engineer in the same manner specified for the initially approved WPCP. Amendments shall be dated and attached to the on-site WPCP document.

The Contractor shall keep a copy of the WPCP, together with updates, revisions and amendments at the project site.

WPCP IMPLEMENTATION

Upon approval of the WPCP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures included in the WPCP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these special provisions, the Contractor's responsibility for WPCP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications. Requirements for installation, construction, inspection, maintenance, removal and disposal of control measures are specified in the Handbook and these special provisions.

Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the winter season, defined as between November 1 and March 15.

Implementation of soil stabilization practices and sediment control measures for soil-disturbed areas of the project site shall be completed, except as provided for below, no later than 20 days prior to the beginning of the winter season or upon start of applicable construction activities for projects which begin either during or within 20 days of the winter season.

Throughout the winter season, the active, soil-disturbed area of the project site shall be no more than 1.9 hectares. The Engineer may approve, on a case-by-case basis, expansions of the active, soil-disturbed area limit. The Contractor shall demonstrate the ability and preparedness to fully deploy soil stabilization practices and sediment control measures to protect soil-disturbed areas of the project site before the onset of precipitation. The Contractor shall maintain a quantity of soil stabilization and sediment control materials on site equal to 100 percent of that sufficient to protect unprotected, soil-disturbed areas on the project site and shall maintain a detailed plan for the mobilization of sufficient labor and equipment to fully deploy control measures required to protect unprotected, soil-disturbed areas on the project site prior to the onset of precipitation. The Contractor shall include a current inventory of control measure materials and the detailed mobilization plan as part of the WPCP.

Throughout the winter season, soil-disturbed areas of the project site shall be considered to be nonactive whenever soil disturbing activities are expected to be discontinued for a period of 20 or more days and the areas are fully protected. Areas that will become nonactive either during the winter season or within 20 days thereof shall be fully protected with soil stabilization practices and sediment control measures within 10 days of the discontinuance of soil disturbing activities or prior to the onset of precipitation, whichever is first to occur.

Throughout the winter season, active soil-disturbed areas of the project site shall be fully protected at the end of each day with soil stabilization practices and sediment control measures unless fair weather is predicted through the following work day. The weather forecast shall be monitored by the Contractor on a daily basis. The National Weather Service forecast shall be used, or an alternative weather forecast proposed by the Contractor may be used if approved by the Engineer. If precipitation is predicted prior to the end of the following work day, construction scheduling shall be modified, as required, and the Contractor shall deploy functioning control measures prior to the onset of the precipitation.

The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the WPCP for sediment tracking, wind erosion, nonstorm water management and waste management and disposal.

The Engineer may order the suspension of construction operations which create water pollution if the Contractor fails to conform to the requirements of this section "Water Pollution Control" as determined by the Engineer.

MAINTENANCE

To ensure the proper implementation and functioning of control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the WPCP. The Contractor shall identify corrective actions and time frames to address any deficient measures or reinstate any measures that have been discontinued.

The construction site inspection checklist provided in the Handbook shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer.

During the winter season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

1. Prior to a forecast storm;
2. After all precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24 hour intervals during extended precipitation events; and
4. Routinely, at a minimum of once every 2 weeks.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and approved by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the State.

PAYMENT

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Those control measures which are shown on the project plans and for which there is a contract item of work will be measured and paid for as that item of work.

The Engineer will retain an amount equal to 25 percent of the estimated value of the contract work performed during estimate periods in which the Contractor fails to conform to the requirements of this section "Water Pollution Control" as determined by the Engineer.

Retentions for failure to conform to the requirements of this section "Water Pollution Control" shall be in addition to the other retentions provided for in the contract. The amounts retained for failure of the Contractor to conform to the requirements of this section will be released for payment on the next monthly estimate for partial payment following the date that a WPCP has been implemented and maintained, and water pollution is adequately controlled, as determined by the Engineer.

10-1.03 TEMPORARY FENCE (TYPE ESA)

Temporary fence (Type ESA) shall be furnished and constructed, maintained, and later removed as shown on the plans, as specified in these special provisions, and as directed by the Engineer.

Temporary fence (Type ESA) shall be constructed prior to any clearing and grubbing work and a sufficient distance from protected plants to enclose all of the foliage canopy and not encroach upon visible roots of the plants.

Temporary fence (Type ESA) shall be located so that it will be obvious to heavy equipment operators.

Used materials may be installed providing the used materials are good, sound, and are suitable for the purpose intended, as determined by the Engineer.

Materials may be commercial quality providing the dimensions and sizes of the materials are equal to, or greater than, the dimensions and sizes shown on the plans or specified herein. Fabric used for temporary fence (Type ESA) shall also conform to the following:

Material:	Polypropylene or Polyethylene
Color:	Orange
Mesh opening:	50 mm x 50 mm
UV Resistance:	Fully Stabilized
Fabric Width, min.:	1.22 m

Posts shall be either metal or wood at the Contractor's option, shall be suitable for the purpose intended and shall be driven into the soil a minimum of 400 mm. Post spacing shall be adequate to completely support the fence fabric in an upright position.

Galvanizing and painting of steel items will not be required.
Treating wood with wood preservatives will not be required.
Concrete footings for posts will not be required.

Temporary fence (Type ESA) shall be constructed in accordance with the manufacturer's recommendations.

Temporary fence (Type ESA) that is damaged from any cause during the progress of the work shall be repaired or replaced by the Contractor at the Contractor's expense.

When no longer required for the work as determined by the Engineer, temporary fence (Type ESA) shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.

Holes caused by the removal of temporary fences shall be backfilled in accordance with the provisions in the second paragraph of Section 15-1.02, "Preservation of Property," of the Standard Specifications.

Temporary fence (Type ESA) will be measured and paid for in the same manner specified for permanent fences as provided in Section 80, "Fences," of the Standard Specifications.

The contract price paid per meter for temporary fence (Type ESA) shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for doing all the work involved in constructing temporary fence (Type ESA) complete in place, including, maintaining, removing and disposing of materials as shown on the plans, as specified in the Standard Specifications and these special provisions and as directed by the Engineer.

10-1.04°°PRESERVATION OF PROPERTY

Attention is directed to the provisions in Section 7-1.11, "Preservation of Property," of the Standard Specifications and these special provisions.

Existing trees, shrubs and other plants, that are not to be removed as shown on the plans or specified elsewhere in these special provisions, and are injured or damaged by reason of the Contractor's operations, shall be replaced by the Contractor. The minimum size of tree and shrub replacement shall be No. 15 container. Replacement planting shall conform to the requirements in Section 20-4.07, "Replacement," of the Standard Specifications.

Damaged or injured plants shall be removed and disposed of outside the highway right of way in accordance with the provisions in Section 7-1.13 of the Standard Specifications. At the option of the Contractor, removed trees and shrubs may be reduced to chips. The chipped material shall be spread within the highway right of way at locations designated by the Engineer.

Replacement planting of injured or damaged trees, shrubs and other plants shall be completed prior to the start of the plant establishment period and shall conform to the provisions in Section 20-4.05, "Planting," of the Standard Specifications.

10-1.05°°RELIEF FROM MAINTENANCE AND RESPONSIBILITY

The Contractor may be relieved of the duty of maintenance and protection for those items not directly connected with plant establishment work, except highway planting and irrigation systems in accordance with the provisions in Section 7-1.15, "Relief From Maintenance and Responsibility," of the Standard Specifications.

10-1.06°°CONSTRUCTION AREA SIGNS

Construction area signs shall be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least 2°working days, but not more than 14 calendar days, prior to commencing excavation for construction area sign posts. The regional notification centers include but are not limited to the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600
Underground Service Alert-Southern California (USA)	1-800-422-4133 1-800-227-2600

Excavations required to install construction area signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

The second sentence of the third paragraph in Section 12-3.02, "Barricades," of the Standard Specifications is amended to read:

The entire area of orange and white stripes shall be Type I, engineering grade, or Type II, super engineering grade, retroreflective sheeting conforming to the requirements of ASTM Designation: D 4956-95.

The third paragraph in Section 12-3.06A, "Stationary Mounted Signs," of the Standard Specifications is amended to read:

Sign panels for stationary mounted signs shall consist of Type III or Type IV reflective sheeting applied to an aluminum substrate conforming to the requirements in the Department's "Specifications for Reflective Sheeting Aluminum Signs." The type of reflective sheeting, Type III or Type IV, shall be at the Contractor's option and sign substrates fabricated from materials other than aluminum may be used when specified in the special provisions.

Legend and border may be applied by a screening process or by use of pressure sensitive cut-out sheeting. Size and spacing of letters and symbols shall be as depicted on the sign specification sheets published by the Department.

Rectangular signs over 1375 mm measured along the horizontal axis, and diamond-shaped signs 1500 mm and larger shall be framed unless otherwise specified. Frames shall be constructed in conformance with the requirements of the Department's "Framing Details for Sheet Aluminum Signs," Sheets 1 through 4 and Table 1 on Sheet 5.

Copies of the Department's "Specifications for Reflective Sheeting Aluminum Signs," "Framing Details for Sheet Aluminum Signs," and sign specification sheets may be obtained from the Department's Office of Business Management, Materiel Operations Branch, 1900 Royal Oaks Drive, Sacramento, CA 95815.

The second paragraph in Section 12-3.06B, "Portable Signs," of the Standard Specifications is amended to read:

Sign panels for portable signs shall conform to the provisions of sign panels for stationary mounted signs in Section 12-3.06A, "Stationary Mounted Signs," or shall be Type VI reflective sheeting as specified in the special provisions, or shall be cotton drill fabric, flexible industrial nylon fabric, or other approved fabric. Fabric signs shall not be used during the hours of darkness. Size, color, and legend requirements for portable signs shall be as described for stationary mounted sign panels in Section 12-3.06A. The height to the bottom of the sign panel above the edge of traveled way shall be at least 0.3-m.

The third paragraph in Section 12-3.06B, "Portable Signs," of the Standard Specifications is deleted.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic as specified under "Approved Traffic Products" of these special provisions.

Type VI reflective sheeting for sign panels for portable construction area signs shall conform to the provisions in "Approved Traffic Products" of these special provisions.

10-1.07 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.08, "Public Convenience," 7-1.09, "Public Safety," and 12, "Construction Area Traffic Control Devices," of the Standard Specifications and to the Section entitled "Public Safety" elsewhere in these special provisions, and these special provisions. Nothing in these special provisions shall be construed as relieving the Contractor from the responsibilities specified in Section 7-1.09.

Lane closures shall conform to the provisions in the section of these special provisions entitled "Traffic Control System for Lane Closure."

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

Whenever vehicles or equipment are parked on the shoulder within 1.8 m of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 7.5 m intervals to a point not less than 7.5 m past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where directed by the Engineer.

During Stages I, II and III, traffic shall be controlled in accordance with the plans entitled, "Stage Construction Traffic Handling Plan."

Except as provided for in Stages I, II and III, a minimum of one paved traffic lane, not less than 3.6 m wide, shall be open for use by public traffic. When construction operations are not actively in progress or the temporary signal system is no longer being utilized, not less than 2 of these lanes shall be open to public traffic.

During stage construction set up and removal the road may be closed and public traffic stopped for periods not to exceed 5 minutes. After each closure, all accumulated traffic shall be allowed to pass through the work before another closure is made.

When the temporary signal system is no longer being utilized the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays and designated legal holidays, after 3:00 p.m. on Fridays and the day preceding designated legal holidays, and when construction operations are not actively in progress.

Except as provided for in Stages I, II and III lanes shall be closed only during the hours shown on the charts included in this section "Maintaining Traffic." Except work required under said Sections 7-1.08 and 7-1.09, work that interferes with public traffic shall be performed only during the hours shown for lane closures.

Except as provided for in Stages I, II and III lanes shall be open for use by public traffic on December 24th, December 26th, December 31st, January 2nd, July 3rd, July 5th, the Friday preceding Easter, Memorial Day, and Labor Day, the Wednesday preceding Thanksgiving Day, and the Tuesday following Memorial Day and Labor Day. When December 24th, December 31st or July 3rd fall on a Saturday or Sunday, lanes shall be open for use by public traffic on the preceding Friday. When December 26th, January 2nd or July 5th fall on a Saturday or Sunday, lanes shall be open for use by public traffic on the following Monday.

Designated legal holidays are: January 1st, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, November 11th, Thanksgiving Day, and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday.

Chart No. 1																									
Two Lane Conventional Highway Lane Requirements																									
Location: Northbound and Southbound Mon-1-71.4 KP (44.4 PM)																									
FROM HOUR TO HOUR	a.m.												p.m.												
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Mondays through Thursdays																									
Fridays																									
Saturdays																									
Sundays																									
Day before designated legal holiday																									
Designated legal holidays																									
Legend:																									
<div><div></div> One lane open under flagging control</div>																									
<div><div></div> No work that interferes with public traffic will be allowed</div>																									
REMARKS: This lane closure chart applies except when one-way traffic signals are installed. This lane closure chart is applicable the Tuesday after Memorial Day until the Tuesday after Labor Day.																									

Chart No. 2 Two Lane Conventional Highway Lane Requirements																									
Location: Northbound and Southbound Mon-1-71.4 KP (44.4 PM)																									
FROM HOUR TO HOUR	a.m.												p.m.												
	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Mondays through Thursdays																									
Fridays																									
Saturdays																									
Sundays																									
Day before designated legal holiday																									
Designated legal holidays																									
Legend:																									
<div><div></div> One lane open under flagging control</div>																									
<div><div></div> No work that interferes with public traffic will be allowed</div>																									
REMARKS: This lane closure chart applies except when one-way traffic signals are installed. This lane closure chart is applicable the Tuesday after Labor Day until the Tuesday after Memorial Day.																									

10-1.08^{***}CLOSURE REQUIREMENTS AND CONDITIONS

Lane closures shall conform to the provisions in "Maintaining Traffic" of these special provisions and these special provisions.

The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system.

CLOSURE SCHEDULE

By Noon Monday, the Contractor shall submit a written schedule of planned closures for the next week period, defined as Friday Noon through the following Friday Noon.

The Closure Schedule shall show the locations and times when the proposed closures are to be in effect. The Contractor shall use closure schedule request forms furnished by the Engineer for this purpose. Closure schedules submitted with incomplete, unintelligible or inaccurate information will be returned for correction. The Contractor will be notified of disapproved closures or closures that will require coordination with other parties as a condition of approval.

Amendments to the Closure Schedule, including additional closures, shall be submitted to the Engineer, in writing, at least 3 working days in advance of any planned closure. Approval of amendments to the Closure Schedule will be at the discretion of the Engineer.

The Contractor shall confirm, in writing, all scheduled closures by no later than 8:00 a.m. 3rd working days prior to the date on which the closure is to be made. Approval or denial of scheduled closures will be made by no later than 4:00 p.m. 2 working days prior to the date on which the closure is to be made. Closures not confirmed or approved will not be allowed.

Confirmed closures that are cancelled due to unsuitable weather may be rescheduled at the discretion of the Engineer for the next working day.

CONTINGENCY PLAN

The Contractor shall prepare a contingency plan for reopening closures to public traffic. The Contractor shall submit the contingency plan for a given operation to the Engineer within one working day of the Engineer's request.

LATE REOPENING OF CLOSURES

If a closure is not reopened to public traffic by the specified time, work shall be suspended in conformance with the provisions in Section 8-1.05, "Temporary Suspension of Work," of the Standard Specifications. The Contractor shall not make any further closures until the Engineer has accepted a work plan, submitted by the Contractor, that will insure that future closures will be reopened to public traffic at the specified time. The Engineer will have 2 working days to accept or

reject the Contractor's proposed work plan. The Contractor will not be entitled to any compensation for the suspension of work resulting from the late reopening of closures.

COMPENSATION

The Contractor shall notify the Engineer of any delay in the Contractor's operations due to the following conditions, and if, in the opinion of the Engineer, the Contractor's controlling operation is delayed or interfered with by reason of those conditions, and the Contractor's loss due to that delay could not have been avoided by rescheduling the affected closure or by judicious handling of forces, equipment and plant, the delay will be considered a right of way delay within the meaning of Section 8-1.09, "Right of Way Delays," and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09:

- A. The Contractor's proposed Closure Schedule is denied and his planned closures are within the time frame allowed for closures in "Maintaining Traffic" of these special provisions, except that the Contractor will not be entitled to any compensation for amendments to the Closure Schedule that are not approved.
- B. The Contractor is denied a confirmed closure.

Should the Engineer direct the Contractor to remove a closure prior to the time designated in the approved Closure Schedule, any delay to the Contractor's schedule due to removal of the closure will be considered a right of way delay within the meaning of Section 8-1.09, "Right of Way Delays," and compensation for the delay will be determined in conformance with the provisions in Section 8-1.09.

10-1.09°°TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

A traffic control system shall consist of closing traffic lanes in accordance with the details shown on the plans, the provisions of Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications, the provisions under "Maintaining Traffic" and "Construction Area Signs" elsewhere in these special provisions and these special provisions.

The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take the measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right of way.

One-way traffic shall be controlled through the project in accordance with the plan entitled "Traffic Control System for Lane Closure on Two Lane Conventional Highways," and these special provisions.

When traffic is under one-way control on unpaved areas, the cones shown along the centerline on the plans need not be placed.

Utilizing a pilot car will be at the option of the Contractor. If the Contractor elects to use a pilot car, the cones shown along the centerline on the plan need not be placed. The pilot car shall have radio contact with personnel in the work area and the maximum speed of the pilot car through the traffic control zone shall be 40 km/h.

The contract lump sum price paid for traffic control system shall include full compensation for furnishing all labor (except for flagging costs), materials (including signs), tools, equipment and incidentals, and for doing all the work involved in placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system and for furnishing and operating the pilot car, (including driver, radios, and any other equipment and labor required), as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer. Flagging costs will be paid for as provided in Section 12-2.02, "Flagging Costs," of the Standard Specifications.

The adjustment provisions in Section 4-1.03, "Changes," of the Standard Specifications, shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.03, "Force Account Payment," of the Standard Specifications for increased work, and estimated on the same basis in the case of decreased work.

Traffic control system required by work which is classed as extra work, as provided in Section 4-1.03D of the Standard Specifications, will be paid for as a part of the extra work.

10-1.10°°TEMPORARY PAVEMENT DELINEATION

Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-3.01, "General," of the Standard Specifications and these special provisions. Nothing in these special provisions shall be construed as reducing the minimum standards specified in the Manual of Traffic Controls published by the Department or as relieving the Contractor from the responsibilities specified in Section 7-1.09, "Public Safety," of the Standard Specifications.

GENERAL

Whenever the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place prior to opening the traveled way to public traffic. Laneline or centerline pavement delineation shall be provided at all times for traveled ways open to public traffic.

The Contractor shall perform the work necessary to establish the alignment of temporary pavement delineation, including required lines or marks. Surfaces to receive temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation.

Temporary pavement markers, including underlying adhesive, and removable traffic tape which is applied to the final layer of surfacing or existing pavement to remain in place or which conflicts with a subsequent or new traffic pattern for the area shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

TEMPORARY LANELINE AND CENTERLINE DELINEATION

Whenever lanelines or centerlines are obliterated and temporary pavement delineation to replace the lines is not shown on the plans, the minimum laneline and centerline delineation to be provided for that area shall be temporary reflective pavement markers placed at longitudinal intervals of not more than 7.3°m. The temporary reflective pavement markers shall be the same color as the laneline or centerline the pavement markers replace. Temporary reflective pavement markers shall be, at the option of the Contractor, one of the temporary pavement markers listed for short term day/night use (14 days or less) or long term day/night use (6 months or less) in "Approved Traffic Products" of these special provisions.

Temporary reflective pavement markers shall be placed in conformance with the manufacturer's instructions and shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place pavement markers in areas where removal of the pavement markers will be required.

Temporary laneline or centerline delineation consisting entirely of temporary reflective pavement markers placed on longitudinal intervals of not more than 7.3°m shall be used on lanes opened to public traffic for a maximum of 14 days. Prior to the end of the 14 days the permanent pavement delineation shall be placed. If the permanent pavement delineation is not placed within the 14 days, the Contractor shall provide additional temporary pavement delineation and shall bear the cost thereof. The additional temporary pavement delineation to be provided shall be equivalent to the pattern specified for the permanent pavement delineation for the area, as determined by the Engineer.

Full compensation for furnishing, placing, maintaining and removing the temporary reflective pavement markers (including underlying adhesive, layout (dribble) lines to establish alignment of temporary reflective pavement markers or used for temporary laneline and centerline delineation) for those areas where temporary laneline and centerline delineation is not shown on the plans and for providing equivalent patterns of permanent traffic lines for those areas when required, shall be considered as included in the contract prices paid for the items of work that obliterated the laneline and centerline pavement delineation and no separate payment will be made therefor.

The quantity of channelizers used as temporary edgeline delineation will not be included in the quantity of channelizers to be paid for. Full compensation for furnishing, placing, maintaining and removing temporary edgeline delineation for those areas where temporary edgeline delineation is not shown on the plans shall be considered as included in the contract prices paid for the items of work that obliterated the edgeline pavement delineation and no separate payment will be made therefor.

TEMPORARY TRAFFIC STRIPE (TAPE)

Temporary traffic stripe consisting of removable traffic stripe tape shall be applied at the locations shown on the plans. The temporary traffic stripe tape shall be complete in place at the location shown, prior to opening the traveled way to public traffic.

Removable traffic stripe tape shall be the temporary removable type traffic stripe tape listed in "Approved Traffic Products" of these special provisions.

Removable traffic stripe tape shall be applied in conformance with the manufacturer's installation instructions and shall be rolled slowly with a rubber tired vehicle or roller to ensure complete contact with the pavement surface. Traffic stripe tape shall be applied straight on tangent alignment and on a true arc on curved alignment. Traffic stripe tape shall not be applied when the air or pavement temperature is less than 10°C, unless the installation procedures to be used are approved by the Engineer, prior to beginning installation of the tape.

TEMPORARY PAVEMENT MARKING (PAINT)

Temporary pavement marking consisting of painted pavement marking shall be applied and maintained at the locations shown on the plans. The painted temporary pavement marking shall be complete in place at the location shown, prior to opening the traveled way to public traffic. Removal of painted temporary pavement marking will not be required.

Temporary painted pavement marking shall conform to "Paint Traffic Stripes and Pavement Markings" of these special provisions, except for payment and the number of coats shall be, at the option of the Contractor, either one or two coats regardless whether on new or existing pavement.

At the Contractor's option, temporary removable pavement marking tape or permanent pavement marking tape listed in "Approved Traffic Products" of these special provisions may be used instead of painted temporary pavement markings. When pavement marking tape is used, regardless of which type of tape is placed, the tape will be measured and paid for as temporary pavement marking (paint).

MEASUREMENT AND PAYMENT

Temporary traffic stripe (tape) will be measured and paid for by the meter, measured along the line of the stripe, with deductions for gaps in broken traffic stripes.

Temporary pavement marking (paint) will be measured and paid for in the same manner as specified for paint pavement marking (1-coat) specified in Section 84-3.06, "Measurement," and Section 84-3.07, "Payment," of the Standard Specifications.

The contract price paid per meter for temporary traffic stripe (tape) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in applying, maintaining and removing the temporary traffic stripe tape, complete in place, as shown on the plans, as specified in the Standard Specification and these special provisions, and as directed by the Engineer.

10-1.11°°TEMPORARY TRAFFIC SIGNAL SYSTEM

The temporary traffic signal system (TSS) shall consist of installing and maintaining temporary traffic signal, lighting, and flashing beacons for traffic control in accordance with the details shown on the plan entitled, "Temporary Traffic Signal System," the provisions under "Maintaining Traffic," elsewhere in these special provisions, the provisions in Section 86, "Signals, Lighting and Electrical Systems," of the Standard Specifications, and these special provisions.

The provisions in this section shall not relieve the Contractor from the responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.09, "Public Safety," of the Standard Specifications.

The following materials and equipment for the temporary traffic signal system will be furnished to the Contractor:

- 1.°°Lamps for vehicle traffic signal units, flashing beacons and sign lighting fixtures.
- 2.°°One Model 170 traffic signal controller assembly (including wired cabinet, controller unit and loop detector sensor units).

All other materials and equipment for temporary traffic signal system including, but not limited to, flashing beacons, signal heads, mast arms, luminaires, wood poles, conductors, and hardware shall be furnished by the Contractor.

Materials and equipment to be used in temporary traffic signal system shall be either new or used equipment suitable for the intended use.

Each signal face shall be oriented to be clearly visible to traffic approaching from the direction which the signal is intended to control.

OPERATION.--Temporary traffic signal system shall operate at nominal 120°VAC. Lighting shall operate at 120° or 240°VAC.

Unless otherwise directed by the Engineer, the system shall be operated on a continuous 24-hour basis except for the periods when it is necessary to control traffic by flaggers.

Timing of temporary traffic signal system will be performed by State forces.

MAINTAINING TEMPORARY TRAFFIC SIGNAL SYSTEM.--Maintaining temporary traffic signal system, except controller assembly, shall be the sole responsibility of the Contractor.

If any component in the temporary traffic signal system is damaged, displaced or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component and shall restore the component to its original location. Components shall include signs, generator, flashing beacons and signal equipment.

In the event the temporary traffic signal system is out of operation, for any reason, the Contractor shall provide flaggers, at the Contractor's expense, to maintain traffic control until the traffic signals are returned to service.

All signal faces and flashing beacons shall be covered when not in use.

CONDUIT.--At locations where conduit is to be installed under pavement, and if delay to any vehicle will not exceed 5 minutes, conduit may be installed by the trenching in pavement method in accordance with the requirements specified under "Trenching in Pavement Method" in Section 86-2.05C, "Installation," of the Standard Specifications and these special provisions.

CONDUCTORS AND WIRING.--Conductors shall be the types specified in Section 86-2.08, "Conductors," of the Standard Specifications, or shall be Type UF cable of the size and number of conductors shown on the plans. Minimum conductor size shall be No. 12.

Where conductors are to be placed across paved areas, they shall be suspended from wood poles at least 7.6 m above the roadway.

Minimum depth shall be 750 mm. Concrete cap is not required.

Conductors to a terminal compartment or signal head on a post or pole may be spliced to through conductors of the same phase in a pull box adjacent to the post or pole. Signal conductors or cables shall not be spliced except in pull boxes or in NEMA Type 3R enclosures.

Flashing beacon and lighting conductors may be spliced overhead.

Splices shall be insulated by "Method B" or, at the Contractor's option, splices of conductors shall be insulated with heat-shrink tubing of the appropriate size after thoroughly painting the spliced conductors with electrical insulating coating.

Splice insulation shall cover monolithically onto any outer cable or tubing jacket, and shall provide a watertight joint and shall be insulated to prevent absorption of moisture by the cable.

Aerial cables and conductors shall be supported by a messenger cable, which shall be securely attached at each end by using galvanized eye bolts and 3-bolt clamps, preformed dead-end grips or wire grips. Aerial cables and conductors shall be attached to the messenger cable every 900 mm. The supporting messenger cable shall not be used as a branch-circuit conductor.

The ends of all detector lead-in cables and conductors shall be taped and made waterproof by dipping in a electrical insulating liquid on the ends prior to being installed and prior to being left overnight.

Conductors to be installed on wooden poles shall be placed in conduit.

PULL BOX.--Grout shall not be placed in bottom of pull boxes.

BONDING AND GROUNDING.--Temporary traffic signal system shall be mechanically and electrically secure to form a continuous system effectively grounded by the grounding conductor.

Generator neutral grounding shall conform to the requirements for multiple service points in Section 86-2.10, "Bonding and Grounding," of the Standard Specifications.

SERVICE.--The Contractor shall obtain commercial power from an existing utility company with a generator as backup.

COMMERCIAL POWER.--Commercial power shall be 120/240 VAC. All power sources shall be protected in locked enclosures. The Contractor shall provide the Engineer with keys to all such locks.

A lockable, non-fused AC disconnect separate from the generator, shall be installed in the vicinity of the controller and generator.

Power shall not be obtained from private parties, other than a direct connection to a utility company service point.

The use of electrical power from existing highway facilities will not be permitted, except when approved in writing by the Engineer.

The Contractor shall make the arrangements with the utility company for providing service. The cost to provide the commercial power shall be at the expense of the Contractor.

Commercial electrical power is available at the work site.

GENERATOR.--Generators shall be 120 V or 120/240 V, 60 Hz, 2.5 kW minimum, continuous duty type. Generators may be powered by gasoline, LPG or diesel engines operating at approximately 1800 revolutions per minute. Engines shall be provided with automatic oil feed. Generator system shall be equipped to provide automatic start-stop operation, with 12 V starting system. Generator output circuit shall have overcurrent protection with a maximum setting of 15 A or as shown on the plans.

The generator system shall power an uninterruptable power supply (UPS). The UPS shall power the temporary traffic signal system. The UPS shall be capable of supplying power to the signal system for 1/2 hour during generator shutdown or failure.

Fuel storage shall be sufficient for periods of time during which the generator system will be operated unattended. Engines shall be equipped with approved spark arresters.

GENERATOR OPERATION.--Two generators shall be provided to backup the commercial power. A single generator shall serve as backup to operate the system. In the event of a failure to supply voltage for the system, the second generator shall start automatically and transfer the system load upon reaching operating voltage.

The generator system shall be located within 15 m of the controller assembly.

STATE-FURNISHED CONTROLLER ASSEMBLY.--The Contractor shall construct the controller cabinet wood platform as shown on the plans (including furnishing and installing anchor bolts), shall install the controller cabinet on said wood platform, and shall make all field wiring connections to the terminal blocks in the controller cabinet.

A listing of field conductor terminations, in each State-furnished controller cabinet, will be furnished free of charge to the Contractor at the site of the work.

State will maintain all controller assemblies.

DETECTORS.--Loop detector sensor units will be State-furnished as part of the controller assembly. Loop detector lead-in cable shall be Type B.

LUMINAIRES.--Ballasts shall be the lag or lead regulator type. Luminaries shall be the cutoff type.

SALVAGING SIGNAL SYSTEM.--Upon completion of the work requiring traffic signals as determined by the Engineer, signal heads, flashing beacons, luminaire mast arms and all State-furnished components of the temporary traffic signal system shall be salvaged and delivered to the Caltrans Maintenance Station, 50 Higuera Street, San Luis Obispo, CA 93401.

All other materials and equipment shall become the property of the Contractor and shall be disposed of as provided in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications. Post holes shall be backfilled.

TESTING.--The Contractor shall perform a preliminary field test to show that the temporary traffic signal system, including the generator system, is installed and operating correctly.

Initial turn-on shall not be made without the approval of the Engineer, and shall not be scheduled for less than 72 hours after all systems are thoroughly and satisfactorily tested.

Initial turn-on shall be made prior to 1:00 PM on any working day, except turn-on will not be allowed on Fridays or day prior to a legal holiday.

The insulation resistance test as specified in Section 86-2.14B(3), "Insulation Resistance," of the Standard Specifications, shall not be made prior to the installation of the incandescent lamps in the vehicle traffic signal faces, flashing beacons, and sign lighting fixtures.

VEGETATION REMOVAL.--The Contractor shall clear, remove, and dispose of tree branches and brush that may affect the visibility of the traffic signals, flashing beacons, and signs as directed by the Engineer. The Contractor shall maintain the visibility throughout the life of the project.

WOOD POLES.--Wood poles shall be marked with reflectorized tape.

PAYMENT.--The contract lump sum price paid for temporary traffic signal system shall include full compensation for furnishing all labor, materials (except State-furnished materials), tools, equipment, and incidentals, and for doing all the work involved in installing, maintaining and removing the temporary traffic signal, sign illumination, lighting and flashing beacon system, and hauling State-furnished materials from and to the location specified, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

10-1.12 TEMPORARY RAILING

Temporary railing (Type K) shall be placed as shown on the plans, specified in the Standard Specifications or in these special provisions or ordered by the Engineer, and shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Type P marker panels shall conform to the requirements for stationary-mounted construction area signs in "Construction Area Signs" of these special provisions, except for payment.

Reflectors and adhesive will not be State-furnished.

The fourth paragraph of Section 12-4.01, "Measurement and Payment," of the Standard Specifications is amended to read:

When the Engineer's Estimate includes a contract item for temporary railing (Type K), the temporary railing (Type K) will be measured by the meter along the top of the railing, at each location shown on the plans, specified, or ordered by the Engineer. If the Engineer orders a lateral move of the temporary railing (Type K), and the repositioning is not shown on the plans, moving the temporary railing will be paid for as extra work as provided in Section 4-1.03D and the temporary railing will not be measured in the new position. Temporary railing (Type K) placed in excess of the length shown, specified, or ordered will not be paid for. The contract price paid per meter for temporary railing (Type K) shall include full compensation for furnishing all labor, materials (including reinforcement and Type P marker panels), tools, equipment and incidentals, and for doing all the work involved in furnishing, placing, maintaining, repairing, replacing, and removing the temporary railing, including excavation and backfill, drilling holes and bonding threaded rods or dowels when required, removing threaded rods or dowels and filling the drilled holes with mortar, furnishing and installing reflectors, and moving and replacing removable panels as required, complete in place, as shown on the plans, as specified in these specifications and the special provisions, and as directed by the Engineer.

Reflectors on temporary railing (Type K) shall conform to the provisions in "Approved Traffic Products" of these special provisions.

Temporary railing (Type K), conforming to the details shown on 1995 Standard Plan T3 or 1992 Standard Plan T3, may be used. Temporary railing (Type K) fabricated prior to January 1, 1993, and conforming to 1988 Standard Plan B11-30 may be used, provided the fabrication date is printed on the required Certificate of Compliance.

The Contractor's attention is directed to the provisions in "Public Safety" and "Order of Work" of these special provisions.

Temporary railing (Type K) placed in conformance with the provisions in "Public Safety" of these special provisions will be neither measured nor paid for.

10-1.13°°CHANNELIZERS

Channelizers shall be surface mounted type and shall be furnished, placed, and maintained at the locations shown on the plans and shall conform to the provisions in Section 12, "Construction Area Traffic Control Devices," of the Standard Specifications and these special provisions.

Channelizers shall conform to the provisions in "Approved Traffic Products" of these special provisions.

When no longer required for the work as determined by the Engineer, channelizers and underlying adhesive used to cement the channelizer bases to the pavement shall be removed. Removed channelizers and adhesive shall become the property of the Contractor and shall be removed from the site of work.

10-1.14°°TEMPORARY CRASH CUSHION MODULE

This work shall consist of furnishing, installing and maintaining sand filled temporary crash cushion modules in groupings or arrays at each location shown on the plans, specified in the special provisions or directed by the Engineer. The grouping or array of sand filled modules shall form a complete sand filled temporary crash cushion in accordance with the details shown on the plans and these special provisions.

Attention is directed to "Public Safety" and "Temporary Railing" of these special provisions.

GENERAL

Whenever the work or the Contractor's operations establishes a fixed obstacle, the exposed fixed obstacle shall be protected with a sand filled temporary crash cushion. The sand filled temporary crash cushion shall be in place prior to opening the lanes adjacent to the fixed obstacle to public traffic.

Sand filled temporary crash cushions shall be maintained in place at each location, including times when work is not actively in progress. Sand filled temporary crash cushions may be removed during a work period for access to the work provided that the exposed fixed obstacle is 4.6°m or more from a lane carrying public traffic and the temporary crash cushion is reset to protect the obstacle prior to the end of the work period in which the fixed obstacle was exposed. When no longer required, as determined by the Engineer, sand filled temporary crash cushions shall be removed from the site of the work.

MATERIALS

At the Contractor's option, the modules for use in sand filled temporary crash cushions shall be either Energite III Inertial Modules, Fitch Inertial Modules or TraFFix Sand Barrels manufactured after March 31, 1997, or equal:

- A. Energite III Inertial Modules, manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601-2076, Telephone 1-312-467-6750, FAX 1-800-770-6755.
 - 1. Distributor (Northern): Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, Telephone 1-800-884-8274, FAX 1-916-387-9734
 - 2. Distributor (Southern): Traffic Control Service, Inc., 1881 Betmor Lane, Anaheim, CA 92805, Telephone 1-800-222-8274, FAX 1-714-937-1070.
- B. Fitch Inertial Modules, manufactured by Roadway Safety Service, Inc., 1050 North Rand Road, Wauconda, IL 60084, Telephone 1-800-426-0839, FAX 1-847-487-9820.
 - 1.. Distributor (Northern): Traffic Control Service, Inc., 8585 Thys Court, Sacramento, CA 95828, Telephone 1-800-884-8274, FAX 1-916-387-9734
 - 2. Distributor (Southern): Traffic Control Service, Inc., 1881 Betmor Lane, Anaheim, CA 92805, Telephone 1-800-222-8274, FAX 1-714-937-1070.
- C. TraFFix Sand Barrels, manufactured by TraFFix Devices, Inc., 220 Calle Pintoresco, San Clemente, CA 92672, Telephone 1-949-361-5663, FAX 1-949-361-9205.
 - 1. Russ Enterprises, Inc., 1533 Berger Drive, San Jose, CA 95112, Telephone 1-408-287-4303, FAX 1-408-287-1929.
 - 2. Statewide Safety, P.O. Box 1440, Pismo Beach, CA 93448, Telephone 1-800-559-7080, FAX 1-805-929-5786.

Modules contained in each temporary crash cushion shall be of the same type at each location. The color of the modules shall be the standard yellow color as furnished by the vendor, with black lids. The modules shall exhibit good workmanship free from structural flaws and objectionable surface defects. The modules need not be new. Good used undamaged modules conforming to color and quality of the types specified above may be utilized. If used Fitch modules requiring a seal are furnished, the top edge of the seal shall be securely fastened to the wall of the module by a continuous strip of heavy duty tape.

Modules shall be filled with sand in accordance with the manufacturer's directions, and to the sand capacity in kilograms for each module as shown on the plans. Sand for filling the modules shall be clean washed concrete sand of commercial quality. At the time of placing in the modules, the sand shall contain not more than 7 percent water, as determined by California Test 226.

Modules damaged due to the Contractor's operations shall be repaired immediately by the Contractor at the Contractor's expense. Modules damaged beyond repair, as determined by the Engineer, due to the Contractor's operations shall be removed and replaced by the Contractor at the Contractor's expense.

INSTALLATION

Temporary crash cushion modules shall be placed on movable pallets or frames conforming to the dimensions shown on the plans. The pallets or frames shall provide a full bearing base beneath the modules. The modules and supporting pallets or frames shall not be moved by sliding or skidding along the pavement or bridge deck.

A Type R or P marker panel shall be attached to the front of the crash cushion as shown on the plans, when the closest point of crash cushion array is within 3.6m of the traveled way. The marker panel, when required, shall be firmly fastened to the crash cushion with commercial quality hardware or by other methods approved by the Engineer.

At the completion of the project, temporary crash cushion modules, sand filling, pallets or frames, and marker panels shall become the property of the Contractor and shall be removed from the site of the work. Temporary crash cushion modules shall not be installed in permanent work.

MEASUREMENT AND PAYMENT

Temporary crash cushion modules will be measured by the unit determined from the actual count of modules used in the work or ordered by the Engineer at each location. Temporary crash cushion modules placed in accordance with the provisions in "Public Safety" elsewhere in these special provisions and modules placed in excess of the number specified or shown will not be measured nor paid for.

Repairing modules damaged by public traffic will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications. Modules damaged beyond repair by public traffic, when ordered by the Engineer, shall be removed and replaced immediately by the Contractor. Modules replaced due to damage by public traffic will be measured and paid for as temporary crash cushion module.

If the Engineer orders a lateral move of sand filled temporary crash cushions and the repositioning is not shown on the plans, moving the sand filled temporary crash cushion will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications and these temporary crash cushion modules will not be counted for payment in the new position.

The contract unit price paid for temporary crash cushion module shall include full compensation for furnishing all labor, materials (including sand, pallets or frames and marker panels), tools, equipment and incidentals, and for doing all work involved in furnishing, installing, maintaining, moving and resetting during a work period for access to the work, and removing from the site of the work when no longer required (including those damaged by public traffic) the sand filled temporary crash cushion modules, complete in place, as shown on the plans, as specified in these special provisions and as directed by the Engineer.

10-1.15°°EXISTING HIGHWAY FACILITIES

The work performed in connection with various existing highway facilities shall conform to the provisions in Section 15, "Existing Highway Facilities," of the Standard Specifications and these special provisions.

10-1.15A°°ABANDON CULVERTS

Existing culverts , where shown on the plans to be abandoned, shall be abandoned in place or, at the option of the Contractor, the culverts shall be removed and disposed of. All resulting openings into existing structures, that are to remain in place, shall be plugged with commercial quality concrete containing not less than 300°kg of cement per cubic meter.

Abandoning culverts in place shall conform to the following:

Culverts that intersect the side slopes, shall be removed to a depth of not less than one meter measured normal to the plane of the finished side slope, before being abandoned.

Culverts, 600°mm in diameter and larger, shall be backfilled with controlled low strength material conforming to the provisions in "Controlled Low Strength Material" of these special provisions, by any method, acceptable to the Engineer, which completely fills the pipe.

The ends of culverts shall be securely closed by a 150°mm thick tight fitting plug or wall of commercial quality concrete.

Culverts shall not be abandoned until their use is no longer required. The Contractor shall notify the Engineer in advance of any intended culvert abandonment.

Full compensation for plugs, pipe removal, structure excavation, and backfill (including controlled low strength material), shall be considered as included in the contract unit price paid for abandon culvert and no additional compensation will be allowed therefor.

10-1.15B°°REMOVE PAVEMENT MARKERS

Existing pavement markers, including underlying adhesive, when no longer required for traffic lane delineation as directed by the Engineer, shall be removed and disposed of.

Full compensation for removing and disposing of pavement markers and underlying adhesive shall be considered as included in the contract price paid per meter for remove painted traffic stripe and no separate payment will be made therefor.

10-1.15C°°REMOVE TRAFFIC STRIPES

Traffic stripes to be removed shall be removed at the locations shown on the plans and at the locations designated by the Engineer.

The first paragraph of Section 15-2.02B, "Traffic Stripes and Pavement Markings," of the Standard Specifications is amended to read:

15-2.02B°°Traffic Stripes and Pavement Markings. Traffic stripes and pavement markings shall be removed by any method that does not materially damage the existing pavement. Pavement marking images shall be removed in such a manner that the old message cannot be identified. Where grinding is used, the pavement marking image shall be removed by grinding a rectangular area. The minimum dimensions of the rectangle shall be the height and width of the pavement marking. Residue resulting from removal operations shall be removed from

pavement surfaces by sweeping or vacuuming before the residue is blown by the action of traffic or wind, migrates across lanes or shoulders, or enters into drainage facilities.

Section 15-2.07, "Payment," of the Standard Specifications is amended by adding the following paragraph:

Full compensation for any additional grinding outside the limits of the existing pavement marking image to obtain a rectangular area shall be considered as included in the contract price paid for the item of work involved and no additional compensation will be allowed therefor.

Nothing in these special provisions shall relieve the Contractor from the Contractor's responsibilities as provided in Section 7-1.09, "Public Safety," of the Standard Specifications.

10-1.15D°°REMOVE DRAINAGE FACILITIES

Existing headwalls where any portion of these structures is within one meter of the grading plane in excavation areas, or within 0.3-m of original ground in embankment areas, or where shown on the plans to be removed, shall be completely removed and disposed of.

10-1.15E°°REMOVE DOWNDRAIN

Existing downdrain, where shown on the plans to be removed, shall be removed and disposed of.

10-1.16°°CLEARING AND GRUBBING

Clearing and grubbing shall conform to the provisions in Section 16, "Clearing and Grubbing," of the Standard Specifications and these special provisions.

Vegetation shall be cleared and grubbed only within the excavation and embankment slope lines.

At locations where there is no grading adjacent to a bridge or other structure, clearing and grubbing of vegetation shall be limited to 1.5 meters outside the physical limits of the bridge or structure.

Existing vegetation outside the areas to be cleared and grubbed, shall be protected from injury or damage resulting from the Contractor's operations.

Nothing herein shall be construed as relieving the Contractor of the Contractor's responsibility for final cleanup of the highway as provided in Section 4-1.02, "Final Cleaning Up," of the Standard Specifications.

10-1.17°°EARTHWORK

Earthwork shall conform to the provisions in Section 19, "Earthwork," of the Standard Specifications and these special provisions.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the highway right of way in accordance with the provisions in Section 7-1.13 of the Standard Specifications.

Where a portion of existing surfacing is to be removed, the outline of the area to be removed shall be cut on a neat line with a power-driven saw to a minimum depth of 50°mm before removing the surfacing. Full compensation for cutting existing surfacing shall be considered as included in the contract price paid per cubic meter for roadway excavation and no additional compensation will be allowed therefor.

The requirements in the second paragraph of Section 19-5.03, "Relative Compaction (95 Percent)," of the Standard Specifications shall not apply.

10-1.18°°CONTROLLED LOW STRENGTH MATERIAL

Controlled low strength material shall consist of a workable mixture of aggregate, cementitious materials and water, and shall conform to the provisions in Section 19-3, "Structure Excavation and Backfill," of the Standard Specifications and these special provisions.

At the option of the Contractor, controlled low strength material may be used as structure backfill for pipe culverts, except that controlled low strength material shall not be used as structure backfill for culverts having a span greater than 6.1°m.

When controlled low strength material is used for structure backfill, the width of the excavation shown on the plans may be reduced so that the clear distance between the outside of the pipe and the side of the excavation, on each side of the pipe, is a minimum of 300°mm. This minimum may be reduced to 150°mm when, either the height of cover is less than or equal to 6.1°m or the pipe diameter or span is less than 1050°mm.

Controlled low strength material in new construction shall not be permanently placed higher than the basement soil. For trenches in existing pavements, permanent placement shall be no higher than the bottom of any existing pavement permeable drainage layer. If a drainage layer does not exist, permanent placement in existing pavements shall be no higher than 25°mm

below the bottom of the existing asphalt concrete, or no higher than the top of base below the existing Portland cement concrete pavements. The minimum height that controlled low strength material shall be placed, relative to the pipe invert, is 0.5D (D=Diameter) for rigid pipe and 0.7D for flexible pipe.

When controlled low strength material is proposed for use, the Contractor shall submit a mix design and test data to the Engineer for approval prior to excavating the trench for which controlled low strength material is proposed for use. The test data shall demonstrate that the mix design provides:

- a) For pipe culverts having a height of cover of 6.1 m or less, a 28-day compressive strength between 345 and 690 kPa is required; for height of cover greater than 6.1 m, a minimum 28-day compressive strength of 690 kPa is required. Compressive strength shall be determined by ASTM Designation: "D 4832, "Preparation and Testing of Soil-Cement Slurry Test Cylinders."
- b) When controlled low strength material is used as structure backfill for pipe culverts, the sections of pipe culvert in contact with the controlled low strength material shall meet the requirements of Chapter 850 of the Highway Design Manual using the minimum resistivity, pH, chloride content, and sulfate content of the hardened controlled low strength material. Minimum resistivity and pH shall be determined by California Test 643, the chloride content shall be determined by California Test 422 and the sulfate content shall be determined by California Test 417.
- c) Cement shall be any type of Portland cement conforming to the provisions of ASTM Designation: "C 150; or any type of blended hydraulic cement conforming to either ASTM Designation: "C 595M or the physical requirements of ASTM Designation: "C 1157M. Testing of cement will not be required.
- d) Admixtures may be used in conformance with Section 90-4, "Admixtures," of the Standard Specifications. Chemical admixtures containing chlorides as Cl in excess of one percent by mass of admixture, as determined by California Test 415, shall not be used.

Materials for controlled low strength material shall be thoroughly machine-mixed in a pugmill, rotary drum, or other approved mixer. Mixing shall continue until the cementitious material and water are thoroughly dispersed throughout the material. Controlled low strength material shall be placed in the work within 3 hours after introduction of the cement to the aggregates.

Controlled low strength material shall be placed in a uniform manner that will prevent voids in, or segregation of, the backfill, and will not float or shift the culvert. Foreign material which falls into the trench prior to or during placing of the controlled low strength material shall be immediately removed.

When controlled low strength material is to be placed within the traveled way or otherwise to be covered by paving or embankment materials, the material shall achieve a maximum indentation diameter of 76 mm prior to covering and opening to traffic. Penetration resistance shall be as measured by ASTM Designation: "C 6024, "Standard Test Method for Ball Drop on Controlled Low Strength Material to Determine Suitability for Load Application."

Controlled low strength material used as structure backfill for pipe culverts will be considered structure backfill for compensation purposes.

10-1.19 EROSION CONTROL (TYPE D)

Erosion control (Type D) shall conform to the provisions in Section 20-3, "Erosion Control," of the Standard Specifications and these special provisions.

Erosion control (Type D) work shall consist of applying erosion control materials to embankment and excavation slopes, and other areas designated by the Engineer. If the slope on which the erosion control is to be placed is finished during the winter season as specified in "Water Pollution Control" elsewhere in these special provisions the erosion control shall be applied immediately; otherwise, the erosion control shall be applied as a last item of work.

Prior to installing erosion control materials, soil surface preparation shall conform to the provisions in Section 19-2.05, "Slopes," of the Standard Specifications, except that rills and gullies exceeding 50 mm in depth or width shall be leveled. Vegetative growth, temporary erosion control materials and other debris shall be removed from areas to receive erosion control.

MATERIALS. Materials shall conform to Section 20-2, "Materials," of the Standard Specifications and the following:

SEED. Seed shall conform to the provisions in Section 20-2.10, "Seed," of the Standard Specifications. Individual seed species shall be measured and mixed in the presence of the Engineer.

Seed not required to be labeled under the California Food and Agricultural Code shall be tested for purity and germination by a seed laboratory certified by the Association of Official Seed Analysts, or a seed technologist certified by the Society of Commercial Seed Technologists.

Seed shall have been tested for purity and germination not more than one year prior to application of seed.

Results from testing seed for purity and germination shall be furnished to the Engineer prior to applying seed.

SEED. Seed shall consist of the following:

SEED		
Botanical Name (Common Name)	Percent Germination (Minimum)	Kilograms pure live seed per hectare (Slope measurement)
Eriogonum parvifolium (Sea Cliff Buckwheat)	40	4
Bromus carinatus (California Brome) native only	50	10

Seed shall be delivered to the job site in unopened separate containers with the seed tag attached. Containers without a seed tag will not be accepted.

STABILIZING EMULSION . Stabilizing emulsion shall conform to the provisions in Section 20-2.11, "Stabilizing Emulsion," of the Standard Specifications and these special provisions.

The requirement of an effective life of at least one year for stabilizing emulsion shall not apply.

Stabilizing emulsion shall be in a dry powder form, may be reemulsifiable, and shall be a processed organic adhesive used as a soil binder.

COMPOST. Compost shall be derived from green material consisting of chipped, shredded or ground vegetation or clean processed recycled wood products or a Class A, exceptional quality biosolids composts, as required by the United States Environmental Protection Agency (EPA), 40 CFR, Part 503c regulations or a combination of green material and biosolids compost. Compost shall be screened through a maximum 6°mm screen. The moisture content of the compost shall not exceed 35 percent. Moisture content shall be determined by California Test 226. Compost products with a higher moisture content may be used provided the weight of the compost is increased to equal the compost with a moisture content of 35 percent. Compost will be tested for maturity and stability with a solvita test kit. The compost shall measure a minimum of 6 on the maturity and stability scale.

APPLICATION. Erosion control materials shall be applied in 2 separate applications in the following sequence:

The following mixture in the proportions indicated shall be applied with hydro-seeding equipment within 60 minutes after the seed has been added to the mixture:

Material	Kilograms per hectare (Slope measurement)
Compost	500
Fiber	500
Seed	14

The following mixture in the proportions indicated shall be applied with hydro-seeding equipment:

Material	Kilograms per hectare (Slope measurement)
Compost	1000
Stabilizing Emulsion	120
Fiber	500
Commercial Fertilizer	150

The ratio of total water to total stabilizing emulsion in the mixture shall be as recommended by the manufacturer.

The proportions of erosion control materials may be changed by the Engineer to meet field conditions.

Full compensation for compost shall be considered as included in the contract price paid per hectare for erosion control (Type D) and no separate payment will be made.

10-1.20°SEEDLING PLANTS (PLANT GROUP S)

Seedling plants are currently available through local nurseries. These seedling plants shall be propagated from native seed or native plant cuttings collected between the San Luis Obispo County line and the Little Sur River.

Seedling plants shall conform to the provisions in Section 20-4, "Highway Planting," of the Standard Specifications and these special provisions.

At the option of the Contractor, plants of an equivalent size in plant containers may be substituted for bare root seedlings. Containers made of biodegradable material shall not be used. All plants shall be removed from their containers at the time of planting. If the Contractor elects to furnish plants in containers, the plants will be measured and paid for as Plant (Group°S).

Prior to planting, an area 600°mm in diameter at each proposed seedling location shall be cleared of all weed growth. Removed weed growth shall be disposed of outside the highway right of way in accordance with the provisions in Section 7-1.13 of the Standard Specifications.

Planting holes for seedlings shall be large enough to accommodate the total length and width of the plant roots, , and soil. Where rock or other hard material prohibits holes from being excavated to the depth specified, new holes shall be excavated and the abandoned holes shall be backfilled with the excavated material. Plant holes may be excavated by drilling.

Immediately prior to planting, plant roots shall be thoroughly moistened. Plants shall be set in the planting holes with the root collars even with the ground line, backfilled, and watered. If the soil surrounding any plant settles below the root collar after planting and watering, additional soil shall be added to bring the soil even with the root collar.

Full compensation for preparing planting holes, furnishing and placing fertilizer tablets, and for clearing and disposing of weed growth shall be considered as included in the contract unit price paid for Plant (Group S) and no separate payment will be made therefor.

10-1.21°AGGREGATE BASE

Aggregate base shall be Class°2 and shall conform to the provisions in Section 26, "Aggregate Bases," of the Standard Specifications and these special provisions.

The first paragraph of Section 26-1.02A, "Class°2 Aggregate Base," of the Standard Specifications is amended by adding the following sentences:

Aggregate may include or consist of material processed from reclaimed asphalt concrete, portland cement concrete, lean concrete base, cement treated base, glass or a combination of any of these materials. Aggregate base incorporating reclaimed glass shall not be placed at locations where surfacing will not be placed over the aggregate base.

The fourth paragraph in Section 26-1.02A, is amended by adding the following sentence:

Untreated reclaimed asphalt concrete and portland cement concrete will not be considered to be treated with lime, cement or other chemical material for purposes of performing the Durability Index test.

10-1.22°ASPHALT CONCRETE

Asphalt concrete shall be Type B and shall conform to the provisions in Section 39, "Asphalt Concrete," of the Standard Specifications and these special provisions.

Asphalt concrete binder shall be Grade AR-4000 or AR-8000 as determined by the Engineer except that binder for dike shall be AR-16000.

The amount of asphalt binder used in asphalt concrete placed in dikes, gutters, gutter flares, overside drains and aprons at the ends of drainage structures shall be increased one percent by mass of the aggregate over the amount of asphalt binder determined for use in asphalt concrete placed on the traveled way.

The miscellaneous areas to be paid for at the contract price per square meter for place asphalt concrete (miscellaneous area) in addition to the prices paid for the materials involved shall be limited to the areas listed on the plans.

Aggregate for asphalt concrete dikes shall conform to the 9.5°mm, maximum grading as specified in Section 39-2.02, "Aggregate," of the Standard Specifications.

If the Contractor selects the batch mixing method, asphalt concrete shall be produced by the automatic batch mixing method as provided in Section 39-3.03A(2), "Automatic Proportioning," of the Standard Specifications.

If the finished surface of the asphalt concrete on the Route 1 traffic lanes does not meet the specified surface tolerances, it shall be brought within tolerance by either (1) abrasive grinding (with fog seal coat on the areas which have been ground), (2) removal and replacement, or (3)°placing an overlay of asphalt concrete. The method will be selected by the Engineer. The corrective work shall be at the Contractor's expense.

If abrasive grinding is used to bring the finished surface to specified surface tolerances, additional grinding shall be performed as necessary to extend the area ground in each lateral direction so that the lateral limits of grinding are at a constant offset from, and parallel to the nearest lane line or pavement edge, and in each longitudinal direction so that the grinding begins and ends at lines normal to the pavement centerline, within any ground area. All ground areas shall be neat rectangular areas of uniform surface appearance. Abrasive grinding shall conform to the requirements in the first paragraph and the last 4 paragraphs in Section 42-2.02, "Construction," of the Standard Specifications.

In addition to the aggregate requirements listed in Section 39, "Asphalt Concrete," of the Standard Specifications, the combined aggregates shall conform to the following quality requirement when mixed with paving asphalt Grade AR-4000 in the amount of asphalt determined to be optimum by California Test 367:

Test	California Test	Requirement
Surface Abrasion	360, July 1998	Loss not to exceed 0.4 gram per square cm0

In addition to the requirements in Section 39-5.01, "Spreading Equipment," of the Standard Specifications, asphalt paving equipment shall be equipped with automatic screed controls and a sensing device or devices.

When placing asphalt concrete to the lines and grades established by the Engineer, the automatic controls shall control the longitudinal grade and transverse slope of the screed. Grade and slope references shall be furnished, installed and maintained by the Contractor.

When placing the initial mat of asphalt concrete on existing pavement, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device. The end of the screed farthest from centerline shall be controlled by a sensor activated by a similar ski device.

When placing the initial mat of asphalt concrete on existing pavement, the end of the screed nearest the centerline shall be controlled by a sensor activated by a ski device. The end of the screed farthest from centerline shall be controlled by an automatic transverse slope device set to reproduce the cross slope designated by the Engineer.

When paving contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to the grade of the previously placed mat and will reproduce the grade in the new mat within a 3-mm tolerance. The end of the screed farthest from the previously placed mat shall be controlled in the same manner as when placing the initial mat.

A ski device shall be a rigid one-piece unit at least 9 m in length. The entire length of the ski shall be utilized in activating the sensor.

Should the methods and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the requirements, including straightedge tolerance, of Section 39-6.03, "Compacting," of the Standard Specifications, the paving operations shall be discontinued and the Contractor shall modify the equipment or methods, or furnish substitute equipment.

Should the automatic screed controls fail to operate properly during any day's work, the Contractor may use manual control of the spreading equipment for the remainder of that day, however, the equipment shall be corrected or replaced with alternative automatically controlled equipment conforming to the requirements in this section before starting another day's work.

The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of construction. All paint binder applied or tracked beyond the limits of planned paving shall be removed by the Contractor at the Contractor's expense.

A drop-off of more than 46°mm will not be allowed at any time between adjacent lanes open to public traffic.

Half-width surfacing operations shall be conducted in such manner that, at the end of each day's work, the distance between the ends of adjacent surfaced lanes shall not be greater than can be completed in the following day of normal surfacing operations.

Shoulders or median borders adjacent to a lane being paved shall be surfaced to the elevation of the new lane within 48 hours after opening the lane to traffic.

Additional asphalt concrete surfacing material shall be placed along the edge of the surfacing at road connections and private drives, hand raked, if necessary, and compacted to form smooth tapered conforms. Full compensation for furnishing all labor and tools and doing all the work necessary to hand rake these conforms shall be considered as included in the contract prices paid per tonne for the various contract items of asphalt concrete surfacing involved and no additional compensation will be allowed therefor.

10-1.23°°GEOGRID REINFORCED TIMBER RETAINING WALL

Geogrid reinforced timber retaining wall shall consist of placing geogrid reinforcement material between layers of compacted soil in accordance with the details shown on the plans, as specified in Section 19 "Earthwork," of the Standard

Specifications, these special provisions, and as directed by the Engineer. Only one type of geogrid reinforcement material shall be used for the entire timber retaining wall.

If shown on the plans, a drainage system shall be constructed with the geogrid reinforced timber retaining wall. Specifications for the drainage system will be found elsewhere in these special provisions.

MATERIAL CONFIGURATION SPECIFICATIONS.--The geogrid reinforcement material shall be configured as a geogrid and shall meet the requirements described under "Material" found elsewhere in this section. The Engineer shall be furnished a Certificate of Compliance according to the provisions found in Section 6-1.07, "Certificate of Compliance," of the Standard Specifications for the geogrid reinforcement material a minimum of one week prior to beginning placement of geogrid reinforcement material.

Geogrid reinforcement material shall consist of material designed for use in subsurface geotechnical slope reinforcement applications. Geogrid shall obtain pullout resistance from the soil by a combination of soils shearing friction on the plane surfaces parallel to the direction of shearing and soils bearing on transverse grid surfaces normal to the direction of grid movement. Geogrid shall have a regular and defined open area. The percentage of the open area for geogrids shall not vary outside of the range of 50 to 90 percent of the total projection of a section of the material.

Geogrid reinforcement material shall meet the following requirements in addition to the requirements described under Material elsewhere in this section:

1. Long Term Design Strength (LTDS) for geogrid reinforcement material shall be equal to or greater than values shown on the plans or elsewhere in these specifications as determined by Geosynthetic Research Institute (GRI) Standard Practice GRIG G4. These values are minimum average roll values.

Long Term Design Strength is the strength of the geogrid calculated by applying all partial factors of safety in accordance with GRI Standard Practice GRIG G4. The factor of safety for creep deformation shall be determined for a 75-year design life as determined by GRIG G4 for geogrids. The 75-year design life strength is determined from the creep curve which becomes asymptotic to a constant strain line of 10 percent or less.

In the absence of specific test data, the partial factor of safety default values (installation damage, creep deformation, chemical degradation, biological degradation, and joint) as indicated in the Standard Practice GRIG G4 shall be applied to the calculations of the LTDS.

2. Geogrid reinforcement material shall be resistant to naturally occurring alkaline and acidic soil conditions, and to attack by bacteria.

All test results which contributed to the calculations of the LTDS shall be submitted to the Engineer no less than one week prior to beginning placement of the geogrid reinforced timber retaining wall. All test results which contribute to the calculations of the LTDS shall be prepared and signed by a registered Civil Engineer in the State of California.

MATERIAL.--Geogrid reinforcement material shall consist of high density polyethylene, polypropylene, high density polypropylene sheets, high tenacity polyester yarn, or polyaramide configured into a grid and shall meet the applicable material requirements found below.

High Density Polyethylene.--Geogrid reinforcement material consisting of high density polyethylene shall meet or exceed the following material requirements:

- 1) Be manufactured from high density polyethylene (HDPE) which conforms to ASTM Method D 1248.
- 2) Shall have a LTDS in the primary strength direction greater than or equal to values shown on the plans in kilonewtons per meter.

Polypropylene.--Geogrid reinforcement material consisting of polypropylene or high-density polypropylene sheets shall meet or exceed the following material requirements:

- 1) Shall meet the requirements of ASTM Designation: D 4101, Group 1/Class1/Grade 2.
- 2) Shall have a LTDS in the primary strength direction greater than or equal to values shown on the plans in kilonewtons per meter.

High Tenacity Polyester Encapsulated.--Geogrid reinforcement material consisting of high tenacity polyester yarn shall meet or exceed the following material requirements:

- 1) Be manufactured from high tenacity polyester yarn as determined by ASTM Designation: D 629. In addition to meeting the requirements for geogrid, geogrid shall be encapsulated .
- 2) Shall have a LTDS in the primary strength direction greater than or equal to values shown on the plans in kilonewtons per meter.

Polyaramides.--Geogrid reinforcement material consisting of polyaramide shall meet or exceed the following material requirements:

- 1) Be manufactured from high tenacity polyester yarn as determined by ASTM Designation: D 629.
- 2) Shall have a LTDS in the primary strength direction greater than or equal to values shown on the plans in kilonewtons per meter.

IMPORTED BORROW (GEOGRID REINFORCED TIMBER RETAINING WALL).--All imported borrow used in the geogrid reinforced timber retaining wall shall be reasonably free from organic or other deleterious materials and shall conform to the following:

PROPERTY	VALUE	CA TEST NO.
Percent passing	Gradation	202
Sieve Size		
63.5-millimeters	100	
4.75-millimeters	100-20	
600-µm	15 - 70	
75-µm	0 — 30	
Sand Equivalent	10 minimum	217
Plasticity Index	12 maximum	204
pH	between 3 and 9	643

COMPACTION.--Imported borrow used in the geogrid reinforced timber retaining wall shall be compacted to 90 percent of optimum dry density and plus or minus 2 percentage points of the optimum moisture content according to California Test Method 216.

HANDLING AND STORAGE.--Geogrid reinforcement material shall be handled and stored in accordance with the manufacturer's recommendations and these special provisions. Geogrid reinforcement material shall be furnished in an appropriate protective cover which shall protect it from ultraviolet radiation and from abrasion during shipping and handling. Only as much geogrid reinforcement material shall be placed as can be placed and covered with backfill in the same work shift.

STRUCTURAL TIMBER.--Structural timber shall be 203°mm x 203°mm full sawn, No. 1 grade, treated Douglas fir. Forming elements shall consist of wood (minimum 25.4°mm thickness). All structural timber, lumber, and hardware shall conform to the provision in Section 57 "Timber Structures," of the Standard Specifications. Preservative treatment of lumber and timbers shall conform to the provisions in Section 58, "Preservative Treatment of Lumber, Timber and Piling," of the Standard Specifications.

FOUNDATION PREPARATION.--The foundation for the timber facing elements shall be excavated and backfilled with permeable material to the lines and grades shown on the plans and these special provisions.

The permeable material shall be placed upon compacted basement soil, or upon undisturbed ground. Any basement soil found to be unsuitable shall be removed and replaced as directed by the Engineer.

CONSTRUCTION.--The Contractor shall prepare the grade that is to receive the layers of geogrid reinforcement material to the compaction and elevation tolerances described in the Standard Specifications under Section 19-2.05, "Slopes," and these special provisions. The grade shall be free of loose or extraneous material and objects that may damage the geogrid reinforcement material during installation. Relative compaction of not less than 95 percent shall be obtained in the wall foundation under the lowest layer of geogrid reinforcement material for a minimum depth of 0.15 meter.

Timber members are to be placed as shown on the plans and as specified in these special provisions. The geogrid shall be attached to the timber facing by nailing the wood forming element to the timbers. Nails shall be 16d galvanized ring shank nails and shall be placed at the top and bottom of the forming elements at 300mm intervals.

Geogrid reinforcement material shall be handled and placed in accordance with the manufacturer's recommendations and these special provisions. The geogrid reinforcement material shall be laid horizontally at the elevation specified on the plans, on compacted backfill. The geogrid reinforcement material shall be placed in a wrinkle free manner, pulled taut, aligned, and anchored before backfill placement. Slack in geogrid reinforcement material shall be removed in a manner, and to such a degree, as approved by the Engineer. Geogrid reinforcement material shall be installed in a horizontal plane at the intervals, elevations, and for the minimum embedment length shown on the plans on compacted imported borrow. Each layer of geogrid reinforcement material shall not vary more than 0.15 meter from the theoretical horizontal plane established for that layer for the entire width and length of the reinforcement.

Geogrid reinforcement material shall be secured in place with staples, pins, sand bags, or backfill as required by construction conditions, weather conditions, or as directed by the Engineer to prevent the displacement of the geogrid reinforcement material during compaction and placement of the backfill.

Geogrid reinforcement material shall not extend into the pavement structural section.

Each layer of geogrid reinforcement material shall be placed (unrolled) onto the grade to form a continuous mat. Joints or overlapping of geogrid reinforcement shall not be allowed.

If a drainage feature or other feature is shown on the plans within or adjacent to the geogrid reinforced timber retaining wall, the construction of that feature shall be done in a time sequence relative to the geogrid reinforced timber retaining wall as best meets the project requirements.

The geogrid reinforcement material shall be placed in such a manner that the direction of maximum strength is oriented perpendicular to the project centerline. The Contractor shall verify correct orientation of the geogrid reinforcement material. Each layer of geogrid reinforcement material shall be placed onto the backfill material to form a continuous mat. Adjacent strips of geogrid reinforcement material placed in this manner need not be overlapped.

During spreading and compacting of the backfill, at least 150 millimeters, measured vertically, of backfill shall be maintained between the geogrid reinforcement material and the Contractor's equipment. Equipment or vehicles shall not be operated or driven directly on the geogrid reinforcement material. Only light weight compaction equipment shall be allowed within one meter of the face of the wall.

If the geogrid reinforcement material is damaged during construction operations, the damaged sections shall be repaired, at the Contractor's expense, by placing sufficient additional geogrid reinforcement material to cover the damaged area and to meet the following overlap requirements:

- 1) Edges of geogrid perpendicular to centerline shall be overlapped for entire lengths by the small of: three aperture openings or 100 millimeters. Edges of geogrid parallel to centerline shall be joined using a mechanical connection.

MEASUREMENT AND PAYMENT.--Geogrid reinforced timber retaining wall will be measured and paid for by the square meter of projected wall facing. The square meter area for payment will be based on the height and length as shown on the plans. The height will be taken as the difference in elevation on the outer face from the bottom of the lowest timber to the top of the uppermost timber.

The contract price paid per square meter of geogrid reinforced timber retaining wall shall include full compensation for furnishing all labor and materials, including structural timber, forming elements, geogrid, chimney drain, tools and equipment, and incidentals, for developing, placing and compacting imported borrow, and for doing all the work involved in placing the geogrid reinforcement material complete and in place, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Attention is directed to "Underdrains" of these special provisions, concerning the compensation for Class 3 permeable material and filter fabric.

10-1.24°°UNDERDRAINS

Permeable material and perforated plastic pipe underdrains and filter fabric shall conform to the provisions in Section 68-1, "Underdrains," of the Standard Specifications and these special provisions.

Pipe for underdrains and underdrain outlets shall be smooth-wall polyvinyl chloride plastic pipe.

Caps for underdrains shall be fabricated of the same quality polyvinyl chloride as the perforated plastic pipe.

The first paragraph of Section 68-1.01, "Description," of the Standard Specifications is amended to read:

68-1.01°°Description. This work shall consist of furnishing and installing alternative pipe, perforated steel pipe, perforated aluminum pipe, and perforated plastic pipe or tubing underdrains, and furnishing and placing permeable material and filter fabric as shown on the plans or directed by the Engineer, and as specified in these specifications and the special provisions.

Sections 68-1.02A, "Clay Drain Tile," 68-1.02B, "Concrete Drain Tile," 68-1.02C, "Porous Concrete Pipe," 68-1.02E, "Perforated Clay Pipe," and 68-1.02H, "Perforated Concrete Pipe," of the Standard Specifications are hereby deleted.

The sixth paragraph in Section 68-1.03, "Installing Underdrains," of the Standard Specifications is amended to read:

Lengths of perforated steel pipe and perforated aluminum pipe shall be joined by couplers.

PERMEABLE MATERIAL.--The permeable material (chimney drain) and (geogrid reinforced timber retaining wall) shall be constructed in accordance with the details shown on the plans .

Permeable material shall be Class 3 and shall conform to the provisions of Section 68-1, "Underdrains," of the Standard Specifications, except for payment.

Class 3 permeable material shall conform to the following grading requirements:

Grading Requirements (Percentage Passing)		
Sieve Sizes	Operating Range	Contract Compliance
50-mm	100	100
38-mm	88 - 100	87 - 100
25-mm	12-48	30 - 60
19-mm	0-17	5 - 35
9.5-mm	0-7	0 - 12

Filter fabric for use with the permeable material (chimney drain) shall conform to the requirements for filter fabric for underdrain trenches in Section 88, "Engineering Fabrics," of the Standard Specifications and the following:

Filter fabric shall be handled and placed in accordance with the manufacturer's recommendations.

The fabric shall be aligned and placed in a wrinkle-free manner.

Adjacent borders of the fabric shall be overlapped from 300 to 450°mm or stitched. The preceding roll shall overlap the following roll in the direction the material is being spread or shall be stitched. When the fabric is joined by stitching, it shall be stitched with yarn of a contrasting color. The size and composition of the yarn shall be as recommended by the fabric manufacturer. The stitches shall number 5°to°7 per 25°mm of seam.

Within 24 hours after the filter fabric has been placed, it shall be covered with the planned thickness of permeable material as shown on the plans.

During spreading and compaction of the permeable material , a minimum of 150°mm of the material shall be maintained between the fabric and the Contractor's equipment. Where embankment material is to be placed on the filter fabric, a minimum of 450°mm of embankment material shall be maintained between the fabric and the Contractor's equipment. Equipment or vehicles shall not be operated or driven directly on the filter fabric.

Full compensation for Class 3 permeable material (chimney drain) and Class 3 permeable material (geogrid reinforced timber retaining wall) shall be considered as included in the contract lump sum price paid per square meter for geogrid reinforced timber retaining wall and no separate payment will be made therefor.

Full compensation for underdrains and underdrain outlets shall be considered as included in the contract price paid per square meter for geogrid reinforced timber retaining wall and no separate payment will be made therefor.

Full compensation for filter fabric shall be considered as included in the contract price paid per square meter for geogrid reinforced timber retaining wall and no separate payment will be made therefor.

Full compensation for furnishing and installing polyvinyl chloride caps for underdrains shall be considered as included in the contract price paid per square meter for geogrid reinforced timber retaining wall and no additional compensation will be allowed therefor.

10-1.25°°OVERSIDE DRAINS

Steel entrance tapers shall conform to the provisions in Section 69, "Overside Drains," of the Standard Specifications and these special provisions.

Steel entrance tapers and pipe downdrains shall be fabricated from zinc-coated steel sheet.

10-1.26°°MARKERS AND DELINEATORS

Markers and delineators shall conform to the provisions in Section 82, "Markers and Delineators," of the Standard Specifications and these special provisions.

Markers and delineators on flexible posts shall be as specified in "Approved Traffic Products" of these special provisions. Flexible posts shall be made from a flexible white plastic which shall be resistant to impact, ultraviolet light, ozone and hydrocarbons. Flexible posts shall resist stiffening with age and shall be free of burns, discoloration, contamination, and other objectionable marks or defects which affect appearance or serviceability.

Reflective sheeting for metal and flexible target plates shall be the reflective sheeting designated for channelizers, markers, and delineators specified in "Approved Traffic Products" of these special provisions.

10-1.27°°CABLE RAILING

Cable railing shall conform to the provisions in Section 83-1, "Railings," of the Standard Specifications.

10-1.28°°PAINT TRAFFIC STRIPES

Painting traffic stripes (traffic lines) shall conform to the provisions in Section 84, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

The subparagraphs of the first paragraph in Section 84-3.02, "Materials," of the Standard Specifications are amended to read:

State Specification No.

Solvent Borne, Acrylic Copolymer Traffic Line. White, Yellow and Black
Water Borne, Traffic Line. White, Yellow and Black

PT-170-A
8010-20A

The second and third paragraphs in Section 84-3.02, "Materials," of the Standard Specifications are amended to read:

Glass beads shall conform to State Specification 8010-004 (Type II).

State Specifications for traffic paint and glass beads may be obtained from the Transportation Laboratory, 5900 Folsom Boulevard, Sacramento, CA°°958194612, Telephone 916-227-7289.

At the option of the Contractor, permanent striping tape as specified in "Approved Traffic Products" of these special provisions, may be placed instead of the painted traffic stripes specified herein, except that 3M, "Stamark" Series A320 Bisymmetric Grade, manufactured by the 3M Company, shall not be used. Pavement tape, if used, shall be installed in conformance with the manufacturer's specifications. If pavement tape is placed instead of painted traffic stripes, the pavement tape will be measured and paid for as paint traffic stripe of the number of coats designated in the Engineer's Estimate.

10-1.29°°PAVEMENT MARKERS

Pavement markers shall conform to the provisions in Section 85, "Pavement Markers," of the Standard Specifications.

SECTION 10-2.°°HIGHWAY PLANTING

10-2.01°°GENERAL

The work performed in connection with highway planting shall conform to the provisions in Section 20, "Erosion Control and Highway Planting," of the Standard Specifications and these special provisions.

10-2.01A°°COST BREAK-DOWN

The Contractor shall furnish to the Engineer a cost break-down for the contract lump sum items of highway planting.

Cost break-downs shall be completed and furnished in the format shown in the samples of the cost break-downs included in this section. Unit descriptions of work shown in the samples are the minimum to be submitted. Additional unit descriptions of work may be designated by the Contractor. If the Contractor elects to designate additional unit descriptions of work, the quantity, value and amount for those units shall be completed in the same manner as for the unit descriptions shown in the samples. The units and quantities given in the samples are to show the manner of preparing the cost break-downs to be furnished by the Contractor.

The Contractor shall determine the quantities required to complete the work shown on the plans. The quantities and their values shall be included in the cost break-downs submitted to the Engineer for approval. The Contractor shall be responsible for the accuracy of the quantities and values used in the cost break-downs submitted for approval.

No adjustment in compensation will be made in the contract lump sum prices paid for highway planting due to any differences between the quantities shown in the cost break-downs furnished by the Contractor and the quantities required to complete the work as shown on the plans and as specified in these special provisions.

The sum of the amounts for the units of work listed in each cost break-down for highway planting work shall be equal to the contract lump sum price bid for the work. Overhead and profit shall be included in each individual unit listed in each cost break-down. Cost break-downs shall be submitted to the Engineer for approval within 15 working days after the contract has been approved. Cost break-downs shall be approved, in writing, by the Engineer before any partial payment for the items of highway planting will be made.

Approved cost break-downs will be used to determine partial payments during the progress of the work and as the basis of calculating the adjustment in compensation for the items of highway planting due to changes ordered by the Engineer. When an ordered change increases or decreases the quantities of an approved cost break-down, the adjustment in compensation will be determined in the same manner specified for increases and decreases in the quantity of a contract item of work in accordance with Section 4-1.03B, "Increased or Decreased Quantities," of the Standard Specifications.

HIGHWAY PLANTING COST BREAK-DOWN

Contract No. 05-398504

UNIT DESCRIPTION	UNIT	APPROXIMATE QUANTITY	VALUE	AMOUNT
ROADSIDE CLEARING	LS	LUMP SUM		
MULCH	M3	0.5		
COMMERCIAL FERTILIZER (SLOW RELEASE)	KG	0.5		
WATER GEL CONTAINERS	EA	30		

TOTAL _____

10-2.02°°EXISTING HIGHWAY PLANTING

In addition to the provisions in Section 20 of the Standard Specifications, work performed in connection with existing highway planting shall be in accordance with the provisions in Section°15, "Existing Highway Facilities," of the Standard Specifications and these special provisions.

Replacement planting shall conform to the requirements specified under "Preservation of Property" elsewhere in these special provisions.

10-2.03°°HIGHWAY PLANTING

The work performed in connection with highway planting shall conform to the provisions in Section 20-4, "Highway Planting," of the Standard Specifications and these special provisions.

10-2.03A°°HIGHWAY PLANTING MATERIALS

PLANTS.--Plants that are found to be in a root bound condition or have an underdeveloped root ball as determined by the Engineer will not be accepted.

MULCH.--Mulch shall consist of either wood chips or tree bark or a combination of both.

COMMERCIAL FERTILIZER. Commercial fertilizer (slow release) shall be a pelleted or granular form, shall be a slow release type and shall have the following guaranteed chemical analysis:

Ingredient	Percentage
Nitrogen	19
Phosphoric Acid	6
Water Soluble Potash	12

10-2.03B°°ROADSIDE CLEARING

Prior to preparing planting areas, trash and debris shall be removed from proposed planting areas and within the areas extending beyond the outer limits of the proposed planting areas to the adjacent edges of existing planting to remain or to be maintained, shoulders, dikes, fences and walls.

In addition to removing trash and debris, the project area shall be cleared as specified herein:

Pesticide shall be applied to weeds. Weed species include Cytisus (Broom), Cortaderia (Pampas Grass), Convolvulus (Bindweed), Carpobrotus (Iceplant), Pennisetum (Kikuyu Grass), and others as directed by the Engineer.

Weeds shall be killed and removed within an area 0.6-m in diameter centered at each proposed liner or seedling plant location where the plants are planted more than 3°m apart. At locations where proposed liner or seedling plants are to be planted less than 3°m apart, weeds shall be killed and removed within the entire area.

Disposal of weeds killed during the initial roadside clearing will not be required, unless otherwise directed by the Engineer. When directed by the Engineer, killed weeds shall be disposed of and the disposal will be paid for as extra work as provided in Section 4-1.03D of the Standard Specifications.

After the initial roadside clearing is complete, additional roadside clearing work shall be performed as often as necessary to maintain the areas, as specified above, in a neat appearance until the start of the plant establishment period. This work shall include the following:

Trash and debris shall be removed.

Rodents shall be controlled.

Weed growth shall be killed before the weeds reach the seed stage of growth or exceed 150°mm in length.

Weeds in plant basins, including basin walls, shall be removed by hand pulling, after the plants have been planted.

Roadside clearing work shall not include any work required to be performed as clearing and grubbing as specified in Section 16, "Clearing and Grubbing," of the Standard Specifications.

10-2.03C°°PESTICIDES

Pesticides used to control weeds shall conform to the provisions in Section 20-4.026, "Pesticides," of the Standard Specifications. Except as otherwise provided in these special provisions, pesticide use shall be limited to the following material:

Glyphosate

If the Contractor elects to request the use of other pesticides on this project, the request shall be submitted in writing to the Engineer not less than 10 working days prior to the intended use of the other pesticides. Except for the pesticides listed in the preceding paragraph, no pesticides shall be used or applied without prior written approval from the Engineer.

Care shall be taken during the application of pesticide on weeds not to allow any of the pesticide to contact adjacent native plant species which are not to be killed.

PREPARE HOLES. Holes for plants shall be excavated to the minimum dimensions shown on the plans.

Full compensation for preparing holes shall be considered as included in the contract unit prices paid for the plants involved and no separate payment will be made therefor.

10-2.03D°°PLANTING

Commercial fertilizer shall be applied or placed at the time of planting and at the rates shown on the plans.

Commercial fertilizer (slow release) shall be mixed into the plant hole soil near the root ball of Plant (Group S) plants.

Mulch for plant basins shall be placed so that the mulch does not come in contact with the plant stem.

The contract unit price paid for foliage protectors shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in foliage protectors, complete in place, including installation, as shown on the plans, as specified in these special provisions and as directed by the Engineer.

10-2.03E°°PLANT WATER CONTAINERS

Contractor shall furnish and install at each plant a slow release, containerized watering unit. The plant water containers shall provide a slow release of water for a period of 50 days after planting. The watering unit shall be installed during the planting of Plants (Group S). The plant water containers shall be installed in the plant hole as per manufacturer's recommendation.

The Contractor shall remove and dispose of the empty container, and place a new containerized watering unit prior to the final inspection for Plant Establishment, or as directed by the Engineer.

Full compensation for plant water containers shall be considered as included in the contract lump sum price paid for highway planting and no separate payment will be made therefor.

10-2.03F°°PLANT ESTABLISHMENT WORK

The plant establishment period shall be Type°2 and shall be not less than 50 working days.

Attention is directed to "Relief From Maintenance and Responsibility" elsewhere in these special provisions regarding relief of maintenance and protection.

Weeds within plant basins, including basin walls and ground cover, shall be controlled by hand pulling.

The final inspection, as specified in Section 5-1.13 of the Standard Specifications, shall be completed a minimum of 5 working days before the estimated completion of the contract.

Prior to the final inspection, the Contractor shall refill all existing water gel containers with new water gel inserts. Old water gel inserts shall be removed from the highway right of way and discarded, prior to final inspection.